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SOVEREIGN GOLD RESERVES MANAGEMENT IN DEVELOPING AND DEVELOPED COUNTRIES: A COMPARATIVE STUDY

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This work is dedicated to my mother, Fina, and my father, Manuel (who passed away during the writing of this thesis) for their encouragement and support, as well as for teaching me the life-changing potential of education.

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ABSTRACT

This thesis explores the determinants of sovereign gold reserves financial performance and compares them with sovereign gold reserves levels determinants. The sample used comprises 100 countries and covers the years 2000 to 2014. A dynamic panel generalized method of moments model is used to estimate the influence of development factors and other macroeconomic, trade, financial and risk determinants on gold reserves levels and financial performance. Results indicate that most countries display negative sovereign gold reserves financial performance –due to poor transaction timing– and reveal the existence of a sizeable positive sign statistical association between performance, development and governance (a 10% increase in Human Development Index scores increases gold reserves performance by over 7 million USD). Both sovereign gold reserves financial performance and gold reserves levels appear to be also affected by other macroeconomic, trade, financial and risk determinants, although the signs of the statistical associations identified often differ for performance and gold reserves levels. The substantial losses incurred by central banks in their gold transactions, together with the fact that this phenomenon seems to be more prevalent in developing countries, recommend the implementation of periodic performance assessments and the promotion of capacity building among gold reserve managers.

RESUMEN

Esta tesis explora los determinantes del desempeño financiero de las reservas soberanas de oro y los compara con los determinantes de los niveles de las reservas soberanas de oro. La muestra utilizada comprende 100 países y abarca los años 2000 a 2014. Para estimar la influencia de los factores de desarrollo y otros determinantes macroeconómicos, comerciales, financieros y relativos al riesgo en los niveles de reservas de oro y en el desempeño financiero, se utiliza un panel dinámico al que se aplica el método generalizado de momentos. Los resultados indican que la mayoría de los países muestran un desempeño financiero negativo de las reservas soberanas de oro –debido a una planificación temporal subóptima de las transacciones– y revelan la existencia de una asociación estadística de signo positivo entre desempeño, desarrollo y gobernanza (un aumento del 10% en los puntajes del Índice de Desarrollo Humano aumenta el desempeño de las reservas de oro en más de 7 millones de dólares). Tanto el rendimiento financiero de las reservas soberanas de oro como los niveles de las reservas de oro también parecen verse afectados por otros factores macroeconómicos, comerciales, financieros y relativos al riesgo, aunque los signos de las asociaciones estadísticas identificadas a menudo difieren para el desempeño y el nivel de reservas de oro. Las cuantiosas pérdidas sufridas por los bancos centrales en sus transacciones de oro, junto con el hecho de que este fenómeno parece ser más frecuente en los países en desarrollo, recomiendan la realización de evaluaciones periódicas del desempeño y el nivel de formación específica entre los gestores de las reservas de oro.

RESUMO

Esta tese explora os determinantes da rendibilidade financeira das reservas soberanas de ouro e compáraos cos determinantes dos niveis desas reservas. A mostra empregada inclúe 100 países e abarca os anos 2000 a 2014. Para estimar a influencia dos factores de desenvolvemento e outros determinantes macroeconómicos, comerciais, financeiros e relacionados co risco nos niveis de reservas de ouro e na rendibilidade financeira destas, emprégase un panel dinámico ao que se aplica o método de momentos xeneralizado. Os resultados indican que a maioría dos países amosan unha rendibilidade financeira negativa das reservas soberanas de ouro –atribuíble a unha planificación temporal subóptima das transaccións– e revelan a existencia dunha asociación estatística entre rendibilidade, desenvolvemento e gobernanza (un aumento do 10% nas puntuacións do Índice de Desenvolvemento Humano aumenta a rendibilidade das reservas de ouro en máis de 7 millóns de dólares). Tanto o rendibilidade financeira como os niveis das reservas soberanas de ouro tamén semellan estar afectados por outros factores, de tipo macroeconómico, comercial, financeiro e relacionados co risco, aínda que os signos das asociacións estatísticas identificadas a miúdo difiren entre a rendibilidade e o nivel de reservas de ouro. As cuantiosas perdas incorridas polos bancos centrais nas súas transaccións de ouro, xunto co feito de que este fenómeno parece ser máis frecuente nos países en desenvolvemento, recomendan a realización de avaliacións periódicas do rendemento e o nivel de formación específica entre os xestores das reservas de ouro.

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List of abbreviations

B

BIS
Bank for International Settlements · 54
C

CBGA
Central Bank Gold Agreement · 35
CEMAC
Central African Economic and Monetary Community · 88, 99, 101
D

DGMM
Difference generalized method of moments · 122
DPD
Dynamic panel data · 124
E

ECB
European Central Bank · 35
ETF
Exchange Traded Fund · 33
G

GATA
Gold Anti-Trust Action Committee · 40
GLS
Generalized least squares · 124
GMM
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GNI
Gross National Income · 56
H

HDI
Human Development Index · 56, 173, 177, 185, 219
I

IMF
International Monetary Fund · 35, 45, 52
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OLS
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S

SDRs
Special Drawing Rights · 54
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SGMM
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SUMMARY

1. Relevance of the research

It is estimated that a total of 175,000 tonnes of gold have been mined in history. The approximate market value of this volume of gold surpasses 7 trillion US dollars (April 2019), which is larger than the market capitalization of major stock exchanges such as London or Tokyo, and higher than the United States budget.

Out of the overall volume of extracted gold, 33,637 tonnes were held by central banks at the end of Q3 of 2018 (World Gold Council, 2019), which amounts to over 1,2 trillion USD – roughly the budget of the United Kingdom for 2018 (UK HM Treasury, 2018).

These sovereign gold holdings represent on average 10.7% of the foreign reserve portfolios of countries worldwide (Lakshmi, 2007). While the ratio of gold holdings to total reserves varies substantially by country –over 50% in Portugal, Italy, France, Germany, Greece and the Netherlands; and below 0.1% in Costa Rica, Nigeria and Hong Kong (Ghosh, 2016b)–, a majority of governments continue to hold gold in their foreign reserves portfolios due mainly to its contribution to financial stability, its liquidity and international acceptance when emergency funds are needed to confront financial shocks, its role as a currency exchange rate support tool and the lower credit and political risk profile in comparison to other reserve assets. Furthermore, the global financial crisis has led central bankers and reserve managers to adopt a flight-to-quality asset allocation strategy, strengthening gold positions in their portfolios.

While the performance of private portfolio managers and corporate treasurers is closely monitored and compared to those of peer professionals, in most countries this is not the case for central bankers and reserve managers responsible for sovereign gold holdings.

Taking into account the magnitude of sovereign gold holdings and the potential losses/gains that suboptimal/optimal transaction planning may generate, together with the fact that to the best of our knowledge no academic research exist to date on the financial performance of sovereign gold reserves –existing literature focuses on the determinants of gold demand by central banks (Ghosh, 2016a, 2016b; Gopalakrishnan & Mohapatra, 2018a, 2018b; Oktay, Öztunç, & Serin, 2016)– we have felt that a study on the matter was necessary in order to shed some light on how public funds held in the form of gold reserves are being managed and optimized.

In a preliminary analysis of the average annual profitability of gold reserves transactions for the period 2000 – 2014 conducted for 100 countries, the distribution of results is clearly skewed towards negative returns. A study of the cumulative annual performance for the same sample and period reveals that 62% of countries lost money due to the suboptimal intra-year timing and sizing of their gold transactions (see Descriptive analysis section below). When whole-period performance is considered, similar results are obtained, with 58% of countries displaying an average gold selling price inferior to their average gold acquisition price. In the 15 year-period under study, the 5 bottom performing countries in terms of sovereign gold reserves management –India, Argentina, Spain, South Korea and Russia– incurred losses of over 1,4 billion USD (an average of almost 300 million USD per country). The preliminary findings described above are suggestive of suboptimal transaction planning and execution in a majority

of gold holding countries. Therefore, studying the determinants of sovereign gold reserves financial performance may serve reserve managers to make more informed decisions when transacting gold and ultimately benefit public finances by reducing losses/maximizing gains in sovereign gold reserves transactions.

A preliminary study of the geographical distribution of sovereign gold management profits and losses (see Descriptive analysis section below) suggests a higher prevalence of negative returns among developing countries (income groups 1, 2 and to a certain extent, 3). These initial findings, together with the academic debates on the link between democracy and income (Acemoglu, Johnson, Robinson, & Yared, 2008; Goldsmith, 1995; Lipset, 1959) and the connection between governance, development and economic performance (Kaufmann, Kraay, & Zoido-Lobatón, 2000; Kraay, 1999), leads us to research whether development bears a statistical association with sovereign gold management performance and which development factors display a more marked link with sovereign gold reserves management performance.

2. Research focus and hypotheses

This research work will focus on two dimensions of sovereign gold reserves management:

1. Profitability derived from timing/sizing decisions on sovereign gold transactions.
2. Level of sovereign gold reserves in relation to total reserves and other metrics.

In both abovementioned dimensions, two types of factors will be studied, which fit neatly with the research hypotheses of this work and constitute the main research aims of this thesis:

1. Development factors - **hypothesis 1**: Development acts as a determinant of sovereign gold reserves financial performance.
2. Other factors - **hypothesis 2**: Determinants of gold demand by central banks act as determinants of sovereign gold reserves financial performance.

3. Structure

This thesis is structured in 6 main chapters: Introduction, Literature Review, Research Methodology, Descriptive Analysis, Results and Conclusions. These chapters are complemented by a bibliography and an appendix. The contents in each chapter are summarized below.

4. Literature review

This chapter explores a number of areas which may be of interest to central bankers involved in sovereign gold reserves management. It is divided in two sub-chapters: Background Literature Review and Theoretical Framework. The former covers aspects such as factors

affecting gold prices, optimization of gold transactions timing, role of gold in monetary policy, evolution of total reserves and gold reserves levels or relevance of governance and development in reserves management. The latter focuses on the factors presenting a statistical association with total sovereign reserves, sovereign gold reserves levels and gold reserves financial performance.

Within the first sub-chapter, an in terms of gold economics and pricing, the main question to address is the response of gold prices to supply and demand. On this point, it is important to note that yearly supply of new gold is very small (from 1% to 2% of total gold in existence) and that this supply is highly inelastic in the short term, as exploiting new gold mines takes time. This consideration, together with the fact that gold coming into the market from other sources (not newly mined gold but scrap gold and gold sold by central banks, etc.) is also very limited and only represents between 20% and 40% of annual world supply, makes gold prices not correlated with normal variations in gold supply. Exceptions seem to have been identified by Feldstein (1980a) and Salant & Henderson (1978) in the case of large gold disbursements by central banks. The Washington Agreement on Gold, prohibiting substantial gold sales by central banks, appears to have limited this possibility.

Another factor to be considered by central bankers dealing with gold is the effect of the US dollar exchange rate on the price of the metal. On this point, a quasi-consensus exists on the negative correlation between the exchange rate of the dollar and gold prices. The same occurs with oil and gold prices, for which the existence of a correlation has been amply documented (although in this case it is a positive correlation). In addition, macroeconomic indicators such as unemployment rates, GDP, CPI have been found to affect gold prices and volatility. Central bankers would also do well in following closely the evolution of gold futures and ETFs, as they often provide indications on how prices of physical gold may evolve (Ivanov, 2013; Pavabutr & Chaihetphon, 2010). Finally, behavioural finance affects gold trading in a similar manner to the trading of other financial instruments. In this line of research, Aggarwal & Lucey (2006) find that psychological barriers exist in gold prices, with round numbers acting as floors and ceilings. In addition, these authors observe that the conditional mean, the variance and the volatility of gold prices are significantly affected when gold is trading near psychological barriers.

Transaction timing is an essential aspect in the management of sovereign gold. One of the timing dimensions that has been moderately well analysed in academic literature is seasonality of gold prices. Authors like Baur (2013), Qi & Wang (2013) or Naylor et al. (2011) observe that gold price performance tends to be higher in the months of September and November, while others like Ball et al. (1982) find evidence of intra-week seasonality and point to superior gold price performance on Wednesdays. While intra-day price patterns are not covered per se in this Background Literature Review, it may be useful for central bankers transacting gold to understand the price discovery contribution of the main cash and future gold markets. The London cash market and COMEX have been found to be the two main contributors to price formation, with a very fluid price information transmission between both. Xu & Fung (2005) have analysed the price information flows between Tokyo TOCOM and New York COMEX, finding that COMEX influence over TOCOM on gold prices is six times greater than in the opposite direction.

When addressing foreign reserves management, the first question to be decided by central bankers and governments is the optimal level on international reserves to be held (reserves adequacy levels). Currently, the IMF suggests holding an amount of foreign reserves that would cover the external debt maturing within 1 year. A lower level would increase the exposure of a country to financial crises, while a higher threshold would negatively affect the country´s GDP, as excess reserve funds could be invested in infrastructure or other productive investments (Summers, 2007). A second matter to be decided is the composition of the foreign reserves portfolio. Here, a trend has been identified since the 1970´s to shift reserve funds higher up in the risk/return ladder (Reddy, 2006). Gold has not been an exception. While during the gold standard period, the holding of large reserves of gold was necessary to guarantee the convertibility of banknotes into gold at a fixed rate, the abolition of the convertibility obligation by President Nixon in 1971 –although prompted many countries to significantly reduce gold holdings– did not lead central banks to abandon gold as a reserve asset. Currently, countries hold an average of 10.7% of their foreign reserves in gold (although percentages vary significantly from country to country, with nations such as the United States showing ratios of over 70% and others, particularly developing countries, exhibiting percentages of less than 5%) (Lakshmi, 2007). The main reason why central bankers and governments continue to hold gold in their foreign reserves portfolios are its contribution to financial stability, its liquidity and international acceptance when emergency funds are needed to confront shocks and its role as currency exchange rate support. Superior financial return considerations are usually not part of the justifications given. However, close attention should be paid to the financial transactions that may contribute to return generation for large governmental gold holders: gold lending, gold swaps, writing of gold options; to the exchange rate risk level of gold compared to other foreign currency denominated reserve assets; and to the credit and political risk of those other assets (Bernholz, 2002).

Finally, within the numerous dimensions of development, the interconnection between governance and development (Kaufmann et al., 2000) appears to be of particular relevance for this research project.

The Theoretical Framework sub-chapter builds on the contents presented in the Background Literature Review to expand our understanding of foreign reserves and gold reserves by focusing specifically on the factors which display a statistical association with total sovereign reserves, sovereign gold reserves levels and gold reserves financial performance, and is consequently structured in three sections.

Although the primary focus of this thesis is gold reserves performance, we believe that factors influencing the level of gold reserves and total reserves are likely to also impact performance.

Due to the inexistence, to the best of our knowledge, of comparative studies on the performance of sovereign gold reserves, this chapter dedicates considerable attention to the factors that have been found to bear a significant statistical association with gold reserves levels (ratio of gold reserves to total foreign reserves).

5. Methodology

To test hypothesis 1, two methodologies are used. First, a cross section study of the overall 2000 – 2014 period performance is conducted. The sample covers all countries holding and reporting to the IMF sovereign gold reserves which have bought and sold gold at least once during the period (a total of 89). Dependent variables are "performance" and "performance ranking", while independent variables are "GDP per capita" and "GDP per capita ranking". "Performance" is a calculated variable based on the difference between the average price of gold bought and sold by each country in the sample. In this initial analysis, a simple linear regression is undertaken.

Second, a DGMM panel study of annual sovereign gold management performance is conducted for the same 2000 – 2014 period. In this case, the sample size is 100 countries. The sampling differs from that used in the first methodology in one aspect: the sample used in the first methodology excludes countries not having bought and sold gold during the period covered by the study, while the sample used in the second excludes countries not having bought or sold gold during the period covered by the study. In this case, the dependent variable is "annual gold management performance". As in the previous methodology, it is also a calculated variable, although the calculation method differs. "Annual gold management performance" measures in percentage terms the value added to / deducted from a country´s gold reserves as a consequence of the optimal / suboptimal timing and sizing of the gold transactions executed in a particular year.

In this methodology, a larger number of explanatory variables is used; and the selection of variables is based on the factors affecting gold demand by central banks and sovereign gold reserve levels identified in the Theoretical Framework. Initially, a large database of 43 variables was built so that it could be used for this research project and for future ones. Once the initial data gathering was completed, a variable selection was conducted, choosing the variables found to be statistically significant gold reserves levels determinants by authors covered in the Theoretical Framework and also included in our database (or for which proxy variables are available).

The estimation equation for the determinants of sovereign gold reserves financial performance is:

$$\mathbf{A_{it}=\alpha A_{it-1}+\alpha' A_{it-2}+\beta DEV_{it}+\gamma COUNTRY_{it}+\delta GOLDRES_{it}+\varepsilon GOLD_{t}+\zeta GLOBAL_{t}+\mu_i+\omega_{it}}$$

where A is annual gold management performance, DEV is a vector of development factors at the country-level (income related, governance related and development and aid related), COUNTRY is a vector of macroeconomic, trade, financial and exchange rate variables at the country-level, GOLDRES measures value of gold reserves in current USD, GOLD indicates average gold price per year, GLOBAL is a vector of global factors measuring liquidity and risk, μ_i is a country-specific intercept, and ω_{it} is an i.i.d error term.

For the selection of variables, it was considered important to understand development in a broad sense and include a number of variables that measured to what extent a country could be

considered developed or developing. Therefore, the following variables –grouped under DEV in model equations– were used:

- Governance related: democracy index, rule of law, control of corruption, political constraint index;
- Income related: GDP per capita nominal, income group; and
- Development and aid related: human development index and official development aid as a % of GDP.

In addition to development factors, a number of other determinants were included in the modelizations (building on the referred literature about the determinants of sovereign gold reserves financial performance). These were: under the epigraph COUNTRY: trade related variables such as trade openness, current account balance; financial variables such as foreign direct investment (% GDP), capital account openness; macroeconomic variables such as GDP growth, inflation, inflation volatility; exchange rate related variables such as US exchange local currency. The label GOLDRES includes gold reserves in current USD; the label GOLD refers to gold price in current USD; and GLOBAL comprises VIX and TED rate.

To test hypothesis 2, the same DGMM panel study methodology was used, as well as identical sample, period and explanatory variables. The dependent variable chosen is "ratio of gold reserves to total reserves".

6. Descriptive analysis

In this chapter, a number of graphs, tables and figures which will help interpret the data in the study are presented. Of particular relevance are the graphs resulting from a preliminary study of the geographical distribution of sovereign gold management profits and losses, which suggest a higher prevalence of negative returns among developing countries (income groups 1, 2 and to a certain extent, 3).

7. Results

For the **cross section** study of the overall 2000 – 2014 period, the results produced by a simple linear regression show that Pearson´s correlation coefficients are 0.16 between "GDP per capita" and "performance", and 0.14 between the proxy variables "GDP per capita ranking" and "performance ranking", which are not far from the 0.18 coefficient found by Acemoglu et al. (2008) between democracy metrics and GDP per capita.

For the DGMM dynamic panel study, results of the baseline model appear to confirm hypothesis 1 of this thesis. The three development components included in the baseline model equation –human development index (HDI), income group and rule of law– all show a positive and significant statistical association with the dependent variable "annual gold reserves management performance". Eight alternative modelizations were performed to test the robustness of the equation, and the results obtained were overall satisfactory. In the first

robustness check the baseline model variable "rule of law" was substituted by a proxy, "control of corruption". In a second robustness check, the variable "income group" was replaced by "GDP per capita nominal", and "rule of law" was replaced by "democracy index". In a third robustness check, "TED rate" was used instead of "global liquidity measure – credit to GDP". In a fourth robustness check, the original sample was divided in two subsamples –countries not receiving official development aid and countries receiving official development aid. Furthermore, the robustness of the baseline model was tested dividing the observations in pre-crisis (2000-2007) and crisis (2008-2014) years. In a final robustness test, the dependent variable "annual gold management performance" was substituted by its proxy "current USD gold management profit/loss".

When the DGMM dynamic panel is used for sovereign gold reserves levels, results suggest that determinants of gold reserves levels seem to also affect gold management performance, although not always in the same direction. When comparing the gold reserves to total reserves baseline model with the baseline model for annual gold management performance we find that all but 4 variables ("GDP growth", "income group", "rule of law" and "control of corruption") display opposite sign relations with the dependent variable. Therefore, our results indicate that while determinants of gold demand by central banks act as determinants of sovereign gold reserves financial performance, the effect of most of those determinants is opposite for gold demand and gold performance. Development determinants are, in general, an exception, as they have same direction effects on both gold demand and performance. Therefore, results appear to confirm hypothesis 2.

Results were tested through 11 alternative modelizations. All alternative modelizations used to test the robustness of the "annual gold performance" model were also performed for this model. In addition, 3 alternative modelizations were performed substituting the dependent variable "gold reserves to total reserves" by the proxy variables "gold reserves per capita", "gold reserves to GDP" and "gold reserves to GDP per capita". Furthermore, a final robustness check was performed reducing the number of observations by using a balanced panel. The results of these robustness tests were overall satisfactory.

8. Conclusions

In terms of **contributions**, this thesis is (to the best of our knowledge) the first comparative study on sovereign gold reserves management performance. In that sense, it broadens the existing academic literature on sovereign gold reserves –which to date was focused on the ratio of gold reserves to total reserves– and contributes to enrich the academic literature on overall sovereign reserves. Furthermore, this research includes innovative gold reserves metrics such as "gold reserves per capita" or "gold reserves to GDP per capita", which contribute to a deeper understanding of the sovereign gold reserves panorama.

This research piece is also the first (to the best of our knowledge) to study the statistical association between development and sovereign gold reserves financial performance. Furthermore, development has not been included as a single variable dimension (i.e. GDP per

capita) but measured using several variables such as the Human Development Index, the country income group and three governance variables: rule of law, control of corruption and democracy index.

The development variables mentioned above were also used in the modelization of the determinants of the ratio of sovereign gold reserves to total reserves, which represents a novelty, as they had not been included previously by academics studying the topic.

In addition to its contributions to the literature on foreign reserves, this study also adds to the debate on development economics, as it identifies one additional dimension –sovereign gold reserves management and performance– in which results seem to suggest the existence of a gap between developed and developing countries.

Despite its contributions, this thesis presents a number of **limitations**:

The measurement of sovereign gold reserve performance is done in this thesis through the variable "annual gold management performance", which is a calculated variable based on quarterly sovereign gold purchases/sales data provided by the IMF and the World Gold Council. While this level of chronological detail is sufficient for a first investigation of sovereign gold management performance, it is by no means exact, as the available data do not allow for a precise calculation of countries proceeds and disbursements in their gold transactions.

This research is purely quantitative. However, it may have benefitted from a qualitative addition: research on events, situations and circumstances –political, economic, etc.– that may have motivated individual sales/purchases of gold by countries. Time constraints have prevented us from including this qualitative, contextual analysis.

The research would have also benefitted from insight provided by sovereign gold reserve managers. While conversations were held with staff of the German Central Bank (Deutsche Bundesbank), with associates of the Government of Angola and with analysts from the World Gold Council, no direct contacts with sovereign gold reserves managers could be obtained.

Although data for a larger number of development and economic variables were collected, time constraints obliged us to reduce the final selection of variables included in the modelizations.

This study paves the way for **further research** on sovereign gold reserves management performance. The following are some of the research avenues that may be pursued:

- Study of the statistical association between other independent variables and sovereign gold management performance through the inclusion of additional/alternative explanatory variables in the modelizations of sovereign gold performance.
- Qualitative secondary research about the specific causes of sovereign gold reserves sales/purchases for particular countries conducted through a review of press articles, specialized publications, etc.
- Qualitative primary research about the practices and strategies of sovereign gold reserve managers, conducted through interviews/questionnaires to individuals developing this role in central banks.

- The robustness of this study could be reinforced by obtaining data on the precise calculation of countries proceeds and disbursements in their gold transactions and using these data as model inputs.
- While the comparative nature of this study was focused on developing and developed countries, other comparative analyses of sovereign gold reserves management could be undertaken, for example: attending to geographic regions.
- Although a certain body of literature on adequate levels of gold reserves exists, the validity of these recommendations should be further analysed in view of the results of this thesis on the prevalence of negative returns in sovereign gold reserves management.

Finally, the findings of this thesis have two main **practical implications**: firstly, the association found between good governance, low corruption levels, separation of powers and sovereign gold management performance advices for the assignment of gold transacting decisions to central bank experts, who should be –to the extent possible– not subject to political influence; secondly, due to the large public finance repercussions that the decisions of these experts are likely to have, they should be hired among the most qualified international pool of experienced candidates available, continuously trained and their performance periodically assessed. It may be also advisable to study the convenience of performance-linked compensation schemes for these professionals.

SUMARIO

1. Relevancia de la investigación

Sería difícil exagerar la importancia del oro como activo financiero. Se estima que un total de 175.000 toneladas de este metal han sido extraídas a lo largo de la historia. El valor aproximado de mercado de este volumen de oro supera los 7 billones de dólares de los EE.UU. (abril de 2019), cifra que supera la capitalización bursátil de bolsas de valores como Londres o Tokio, o el presupuesto anual de los Estados Unidos.

Del volumen total de oro extraído, al final del tercer trimestre de 2018, los bancos centrales contaban en su haber con 33.637 toneladas (World Gold Council, 2019), lo que equivale a más de 1,2 billones de dólares –aproximadamente el presupuesto del Reino Unido para 2018 (UK HM Treasury, 2018)–.

A nivel global, las reservas soberanas de oro representan en promedio el 10,7% de las reservas de divisas (Lakshmi, 2007). Si bien la relación entre las reservas de oro y las reservas totales varía sustancialmente de un país a otro –más del 50% en Portugal, Italia, Francia, Alemania, Grecia y los Países Bajos; y por debajo del 0,1% en Costa Rica, Nigeria y Hong Kong (Ghosh, 2016b)–, la mayoría de los gobiernos siguen manteniendo oro en sus carteras de reservas exteriores, debido principalmente a su contribución a la estabilidad financiera, a su liquidez y a su aceptación internacional cuando se necesitan fondos de emergencia para hacer frente a conmociones financieras, a su papel como instrumento de apoyo al tipo de cambio de la moneda nacional y a su menor riesgo crediticio y político en comparación con el de otros activos de las reservas. Además, la crisis financiera mundial ha llevado a los bancos centrales y a los gestores de reservas a adoptar una estrategia de asignación de activos que favorece la calidad, con lo cual han reforzado las posiciones en oro de sus carteras.

Si bien el desempeño de los gestores privados de carteras y de tesoreros corporativos se supervisa de cerca y se compara con el de colegas de profesión, en la mayoría de los países esto no ocurre con los bancos centrales y los gestores de reservas responsables de las reservas soberanas de oro.

Teniendo en cuenta la magnitud de las reservas soberanas de oro y las posibles pérdidas/ganancias que puede generar una planificación no optimizada/optimizada de las transacciones, junto con el hecho de que, y que no tenemos conocimiento de la existencia de ningún estudio académico sobre el rendimiento financiero de las reservas soberanas de oro (la literatura existente se centra en los determinantes de la demanda de oro por parte de los bancos centrales (Ghosh, 2016a, 2016b); Gopalakrishnan & Mohapatra, 2018a, 2018b; Oktay, Öztunç, & Serin, 2016)) hemos considerado necesario un estudio sobre el tema para arrojar algo de luz sobre cómo se están gestionando y optimizando los fondos públicos consignados en forma de reservas de oro.

En un análisis preliminar de la rentabilidad anual media de las transacciones de las reservas de oro para el período 2000-2014 realizado para 100 países, la distribución de los resultados aparece claramente sesgada hacia los rendimientos negativos. Un estudio del desempeño anual acumulado para la misma muestra y período revela que el 62% de los países perdieron dinero debido a una mejorable planificación temporal y de volumen de sus transacciones de oro dentro del año no (véase la sección Análisis descriptivo más adelante). Cuando se considera el

desempeño de todo el período, se obtienen resultados similares: un 58% de los países muestran un precio de venta promedio de oro inferior al precio promedio de adquisición. En el período de 15 años objeto de estudio, los cinco países con peor desempeño en términos de gestión de las reservas soberanas de oro –India, Argentina, España, Corea del Sur y Rusia– incurrieron en pérdidas de más de 1.400 millones de dólares (un promedio de casi 300 millones de dólares por país). Las conclusiones preliminares descritas anteriormente sugieren que la planificación y ejecución de las transacciones no es óptima en la mayoría de los países que poseen oro. Por lo tanto, el estudio de los determinantes del rendimiento financiero de las reservas soberanas de oro puede servir a los gestores de reservas para tomar decisiones más informadas al realizar transacciones de oro y, en última instancia, beneficiar al erario público reduciendo las pérdidas y maximizando las ganancias en las transacciones de las reservas soberanas de oro.

Un estudio preliminar de la distribución geográfica de las ganancias y pérdidas en la gestión del oro soberano (véase la sección Análisis descriptivo más adelante) sugiere una mayor prevalencia de rendimientos negativos entre los países en desarrollo (grupos de ingresos 1, 2 y, en cierta medida, 3). Estos hallazgos iniciales, junto con los debates académicos sobre la relación entre democracia e ingresos (Acemoglu, Johnson, Robinson y Yared, 2008; Goldsmith, 1995; Lipset, 1959) y la relación entre gobernanza, desarrollo y rendimiento económico (Kaufmann, Kraay y Zoido-Lobatón, 2000; Kraay, 1999), nos llevan a investigar si el desarrollo está relacionado estadísticamente con el rendimiento de la gestión del oro soberano y cuáles son los factores de desarrollo que muestran un vínculo más marcado con el rendimiento de la gestión de las reservas soberanas de oro.

2. Ámbitos de investigación e hipótesis

Este trabajo de investigación se centrará en dos dimensiones de la gestión de las reservas soberanas de oro:

1. Rentabilidad derivada de la planificación temporal y de volumen de las transacciones de oro soberano.
2. Nivel de las reservas soberanas de oro en relación con las reservas totales y otros parámetros.

En ambas dimensiones se estudiarán dos tipos de factores, que encajan perfectamente con las hipótesis de investigación de este trabajo y que constituyen los principales objetivos de investigación de esta tesis:

1. Factores de desarrollo - **hipótesis 1**: el desarrollo actúa como un determinante del desempeño financiero de las reservas soberanas de oro.

2. Otros factores - **hipótesis 2**: los determinantes de la demanda de oro por parte de los bancos centrales actúan como determinantes del desempeño financiero de las reservas soberanas de oro.

3. Estructura

Esta tesis se estructura en 6 capítulos principales: introducción, revisión de la literatura, metodología de investigación, análisis descriptivo, resultados y conclusiones. Estos capítulos se complementan con una bibliografía y un apéndice. El contenido de cada capítulo se resume a continuación.

4. Revisión de la literatura

Este capítulo explora una serie de áreas que pueden ser de interés para los bancos centrales que participan en la gestión de las reservas de oro soberano. Se divide en dos subcapítulos: Revisión Contextual de la Literatura y Marco Teórico. El primero abarca aspectos tales como los factores que afectan a los precios del oro, la optimización temporal de las transacciones de oro, el papel del oro en la política monetaria, la evolución de las reservas totales y los niveles de reservas de oro o la importancia de la gobernanza y el desarrollo en la gestión de las reservas. El último se centra en los factores que presentan una asociación estadística con el total de las reservas soberanas, los niveles de las reservas soberanas de oro y el rendimiento financiero de las reservas de oro.

Dentro de subcapítulo Revisión Contextual de la Literatura, y en lo que respecta a los precios del oro y las dinámicas de mercado de este metal, la principal cuestión que se aborda es la respuesta de los precios del oro a la oferta y la demanda. En este punto, es importante señalar que la oferta anual de oro nuevo que llega al mercado es muy reducida (entre 1% al 2% del oro total existente) y que esta oferta es muy inelástica en el corto plazo, ya que la explotación de nuevas minas de oro lleva tiempo. Esta consideración, junto con el hecho de que el oro que entra en el mercado procedente de otras fuentes (oro no extraído recientemente, sino procedente del reciclaje de joyas y asimilados, vendido por los bancos centrales, etc.) es también muy limitado y solo representa entre el 20% y el 40% de la oferta mundial anual, hace que los precios del oro no estén correlacionados con las variaciones normales de la oferta de oro. Feldstein (1980b) y Salant & Henderson (1978) parecen haber identificado excepciones en el caso de grandes desembolsos de oro por parte de los bancos centrales. El Acuerdo de Washington sobre el Oro, que prohíbe las ventas sustanciales de oro por parte de los bancos centrales, parece haber coartado esta posibilidad.

Otro factor destacado es el efecto del tipo de cambio del dólar estadounidense sobre el precio del oro. A este respecto, se da prácticamente un consenso sobre la correlación negativa entre el tipo de cambio del dólar y los precios del oro. Lo mismo ocurre con las cotizaciones de este y del petróleo, entre las que se ha documentado ampliamente la existencia de una correlación (en

este caso se trata de una correlación positiva). Además, se ha comprobado que indicadores macroeconómicos como las tasas de desempleo, el PIB y el IPC guardan también una asociación estadística con los precios del oro y sus niveles de volatilidad. Los banqueros centrales también harían bien en seguir de cerca la evolución de los futuros del oro y los ETFs, ya que a menudo proporcionan indicaciones sobre en qué dirección pueden variar los precios del oro físico (Ivanov, 2013; Pavabutr & Chaihetphon, 2010). Por último, las finanzas comportamentales afectan a la negociación del oro de manera similar a otros instrumentos financieros. En esta línea de investigación, Aggarwal y Lucey (2006) encuentran que existen barreras psicológicas en los precios del oro, tales como las cifras redondas, que actúan como suelos y techos para las cotizaciones. Además, estos autores observan que la media condicional, la varianza y la volatilidad de los precios del oro se ven afectadas cuando el oro cotiza cerca de barreras psicológicas.

La planificación temporal de las transacciones es un aspecto esencial en la gestión de las reservas soberanas de oro. Una de las dimensiones temporales que ha sido moderadamente bien analizada en la literatura académica es la estacionalidad de los precios del oro. Autores como Baur (2013), Qi & Wang (2013) o Naylor et al. (2011) observan que el rendimiento del oro tiende a ser más alto en los meses de septiembre y noviembre, mientras que otros como Ball et al. (1982) encuentran evidencia de estacionalidad intrasemanal con rendimientos superiores los miércoles. Aunque en esta tesis no se cubren los patrones de precios intradiarios per se, puede resultar útil para los bancos centrales que realizan operaciones con oro comprender cómo contribuyen a la formación de precios los principales mercados en los que se negocia el oro (al contado y futuros). A este respecto, se ha comprobado que el mercado de contado de Londres y COMEX son los dos principales contribuyentes a la formación de precios, con una transmisión muy fluida de información sobre precios entre ambos. Xu & Fung (2005) han analizado los flujos de información sobre precios entre el TOCOM de Tokio y el COMEX de Nueva York, y han llegado a la conclusión de que la influencia del COMEX sobre el TOCOM en los precios del oro es seis veces mayor que en la dirección opuesta.

Cuando se aborda la gestión de las reservas soberanas de divisas, la primera cuestión que han de decidir los bancos centrales y los gobiernos es el nivel óptimo de dichas reservas (niveles de adecuación de las reservas). Actualmente, el FMI sugiere mantener una cantidad de reservas de divisas equivalente a la deuda externa con vencimientos inferiores a un año. Un nivel más bajo aumentaría la exposición de un país a las crisis financieras, mientras que un umbral más alto afectaría negativamente al PIB, ya que el exceso de fondos de reserva conlleva un alto coste de oportunidad, pues podría invertirse en infraestructura u otras inversiones productivas (Summers, 2007). Una segunda cuestión que debe decidirse es la composición de la cartera de reservas exteriores. En este caso, se ha identificado una tendencia desde la década de 1970 a invertir los fondos de reserva en instrumentos financieros con un mayor perfil de riesgo/rentabilidad (Reddy, 2006). Las reservas soberanas de oro no han podido sustraerse a esta corriente. Por otra parte, mientras que durante el período del patrón oro la tenencia de grandes reservas de oro era necesaria para garantizar la convertibilidad de los billetes en oro a un tipo fijo, la abolición de la obligación de convertibilidad por parte del presidente Nixon en 1971 –aunque llevó a muchos países a reducir significativamente las tenencias de oro– no hizo que los bancos centrales abandonasen el oro como activo de reserva. En la actualidad, los países almacenan en promedio el 10,7% de sus reservas de divisas en oro (aunque los porcentajes

varían considerablemente de un país a otro, con naciones como los Estados Unidos que dedican más del 70% de sus reservas a oro, y otros, en particular los países en desarrollo, que presentan porcentajes inferiores al 5%) (Lakshmi, 2007). La principal razón por la que los bancos centrales y los gobiernos siguen manteniendo oro en sus carteras de reservas de divisas es su contribución a la estabilidad financiera, su liquidez, su aceptación internacional cuando se necesitan fondos de emergencia para hacer frente a perturbaciones y su papel como herramienta de soporte para el tipo de cambio de la moneda. Por lo general, las consideraciones de rentabilidad financiera no forman parte de las justificaciones para almacenar oro. Sin embargo, debe prestarse especial atención a las transacciones financieras que pueden contribuir a la generación de beneficios para los grandes tenedores gubernamentales de oro (préstamos de oro, swaps de oro, emisión de opciones sobre oro), al nivel de riesgo cambiario del oro en comparación con otros activos de reserva denominados en moneda extranjera, y al riesgo crediticio y político de esos otros activos (Bernholz, 2002).

Finalmente, dentro de las numerosas dimensiones del desarrollo, la interconexión entre gobernanza y desarrollo (Kaufmann et al., 2000) parece ser de particular relevancia para este proyecto de investigación.

El Marco Teórico toma como punto de partida el contenido del capítulo precedente, que pretende ampliar nuestra comprensión de las reservas de divisas y las reservas de oro, y pasa a centrarse en los factores que muestran una asociación estadística con las reservas soberanas totales, los niveles de las reservas soberanas de oro y el rendimiento financiero de las reservas de oro. En consecuencia, el capítulo se estructura en tres secciones.

Aunque el enfoque principal de esta tesis es el rendimiento de las reservas de oro, se estima que los factores que influyen en el nivel de las reservas de oro y las reservas totales afectan también al desempeño financiero de las reservas soberanas de oro. Es por ello que se incluyen en este capítulo.

Debido a que no tenemos conocimiento de la existencia de estudios comparativos sobre el rendimiento de las reservas soberanas de oro, en este capítulo se dedica una atención considerable a los factores que, según la literatura académica, guardan una asociación estadística significativa con los niveles de reservas de oro (relación entre las reservas de oro y el total de las reservas).

5. Metodología de investigación

Para probar la hipótesis 1, se utilizan dos metodologías. En primer lugar, se realiza un estudio *cross-section* del desempeño para todo el período 2000-2014. La muestra abarca todos los países que poseen reservas soberanas de oro, que facilitan datos sobre ellas al Fondo Monetario Internacional y que han comprado y vendido oro al menos una vez durante el período (un total de 89 países). Las variables dependientes son "rendimiento" y "ranking de rendimiento", mientras que las variables independientes son "PIB per cápita" y "ranking de PIB per cápita". El "rendimiento" es una variable calculada a partir de la diferencia entre el precio medio del

oro adquirido y vendido por cada país de la muestra. Para este análisis inicial, la modelización empleada es una regresión lineal simple.

En segundo lugar, se utiliza un panel dinámico al que se aplica el método generalizado de momentos (DGMM) para estudiar el desempeño financiero anual en la gestión de las reservas soberanas de oro para el mismo período 2000-2014. En este caso, el tamaño de la muestra es de 100 países. El procedimiento utilizado para delimitar la muestra difiere del utilizado en la primera metodología en un aspecto: la muestra utilizada en la primera metodología excluye a los países que no adquirieron y vendieron oro durante el período cubierto por el estudio, mientras que la muestra utilizada en la segunda excluye a los países que no adquirieron **o** vendieron oro durante dicho intervalo. En este caso, la variable dependiente es "rendimiento anual de la gestión del oro". Como en la metodología anterior, también es una variable calculada, aunque el método de cálculo varía. El "rendimiento anual de la gestión del oro" mide en términos porcentuales el valor añadido a/deducido de las reservas de oro del país como consecuencia de la planificación temporal y el dimensionamiento óptimo/subóptimo de las transacciones de oro ejecutadas en un año determinado.

En esta metodología se utilizan un mayor número de variables explicativas, y la selección de variables se basa en los factores que afectan a la demanda de oro por parte de los bancos centrales y a los niveles de reservas de oro soberano identificados en el marco teórico. Inicialmente, se compiló una gran base de datos de 43 variables con vistas a poder ser utilizada en este proyecto de investigación y en otros futuros. Una vez completada la recabación de datos inicial, se realizó una selección de variables eligiendo aquellas que los autores recogidos en el marco teórico habían considerado determinantes estadísticamente significativos de los niveles de reservas de oro y que figuran en nuestra base de datos (o para las que se dispone de variables proxy).

La ecuación de estimación para los determinantes del desempeño financiero de las reservas soberanas de oro es:

$$\mathbf{A_{it}=\alpha A_{it-1}+\alpha' A_{it-2}+\beta DEV_{it}+\gamma COUNTRY_{it}+\delta GOLDRES_{it}+\varepsilon GOLD_{t}+\zeta GLOBAL_{t}+\mu_i+\omega_{it}}$$

donde A es el rendimiento anual de la gestión del oro, DEV es un vector de factores de desarrollo a nivel de país (relacionados con los ingresos, la gobernanza y el desarrollo y la ayuda), COUNTRY es un vector de variables macroeconómicas, comerciales, financieras y cambiarias a nivel de país, GOLDRES mide el valor de las reservas de oro en dólares corrientes, GOLD indica el precio medio del oro por año, GLOBAL es un vector de factores globales que miden la liquidez y el riesgo, μ_i es una interceptación específica de cada país y ω_{it} es el error de estimación.

Para la selección de las variables, se consideró importante entender el desarrollo en un sentido amplio e incluir varios factores que midieran hasta qué punto un país podía considerarse desarrollado o en desarrollo. Así pues, se utilizaron las siguientes variables (agrupadas bajo DEV en las ecuaciones del modelo):

- Relacionadas con la gobernanza: índice de democracia, imperio de la ley, control de la corrupción, índice de restricciones políticas;

- Relacionadas con los ingresos: PIB per cápita nominal, grupo de ingresos; y

- Relacionadas con el desarrollo y la ayuda al desarrollo: índice de Desarrollo Humano y ayuda oficial al desarrollo como porcentaje del PIB.

Además de las variables vinculadas al desarrollo, en las modelizaciones se incluyen otros factores determinantes (sobre la base de la bibliografía relativa a los determinantes del rendimiento financiero de las reservas soberanas de oro). En el epígrafe COUNTRY: variables relacionadas con el comercio, como la apertura comercial y la balanza por cuenta corriente; variables financieras, como la inversión extranjera directa (% del PIB) y la apertura de la cuenta de capital; variables macroeconómicas, como el crecimiento del PIB, la inflación y la volatilidad de la inflación; y variables relacionadas con el tipo de cambio. La etiqueta GOLDRES incluye reservas de oro en USD corrientes; la etiqueta GOLD se refiere al precio del oro en USD corrientes; y GLOBAL incluye el índice VIX y diferencial de tipo de interés TED.

Para probar la hipótesis 2, se utilizó la misma metodología de estudio de panel (DGMM), así como idénticas variables explicativas, muestra y período. La variable dependiente elegida fue "ratio entre las reservas de oro y las reservas totales".

6. Análisis descriptivo

En este capítulo se presentan una serie de gráficos, tablas y figuras que ayudarán a interpretar los datos del estudio. De particular importancia son los gráficos resultantes de un estudio preliminar de la distribución geográfica de las pérdidas y ganancias en la gestión del oro soberano, que sugieren una mayor prevalencia de los rendimientos negativos entre los países en desarrollo (grupos de ingresos 1, 2 y, en cierta medida, 3).

7. Resultados

Para el estudio *cross-section* que abarca el período 2000-2014 en su conjunto, los resultados de una regresión lineal simple muestran que los coeficientes de correlación de Pearson´s son del 0,16 entre "PIB per cápita" y "rendimiento" y 0,14 entre las variables sustitutivas "ranking del PIB per cápita" y "ranking del rendimiento", los cuales no están muy lejos del coeficiente de 0,18 encontrado por Acemoglu et al. (2008) entre las métricas de democracia y PIB per cápita.

Para el estudio dinámico de panel DGMM, los resultados del modelo de referencia parecen confirmar la hipótesis 1 de esta tesis. Los tres componentes de desarrollo incluidos en la ecuación del modelo de referencia –índice de Desarrollo Humano, grupo de ingresos e imperio de la ley– muestran una asociación estadística positiva y significativa con la variable dependiente “rendimiento anual de la gestión del oro”. Se realizaron ocho modelizaciones alternativas para probar la robustez del modelo, y los resultados obtenidos fueron en general satisfactorios. En la primera prueba, la variable del modelo de referencia "imperio de la ley" fue sustituida por "control de la corrupción". En una segunda prueba de robustez, la variable "grupo de ingresos" se sustituyó por "PIB per cápita nominal", e "imperio de la ley" por "índice

de democracia". En una tercera comprobación, se utilizó el diferencial "TED" en lugar de la "medida global de liquidez – ratio de crédito/PIB". En un cuarto control de robustez, la muestra original se dividió en dos submuestras: países que no perciben ayuda oficial al desarrollo y países que sí la reciben. Además, se puso a prueba la solidez del modelo de referencia dividiendo las observaciones en los años anteriores a la crisis (2000-2007) y los coincidentes con la crisis y posteriores a ella (2008-2014). En una prueba final de robustez, la variable dependiente "rendimiento anual de la gestión del oro" fue sustituida "beneficios/pérdidas en la gestión del oro (en dólares corrientes)".

Cuando se utiliza el panel dinámico DGMM para los niveles de reservas soberanas de oro, los resultados sugieren que los determinantes de los niveles de reservas de oro también parecen afectar el desempeño de la gestión del oro, aunque no siempre en la misma dirección. Al comparar el modelo de referencia de las reservas de oro respecto a las reservas totales con el modelo de referencia para el rendimiento anual de la gestión del oro, encontramos que todas menos cuatro variables ("crecimiento del PIB", "grupo de ingresos", "imperio de la ley" y "control de la corrupción") muestran relaciones de signo opuesto con la variable dependiente. Por lo tanto, nuestros resultados indican que mientras que los determinantes de la demanda de oro por parte de los bancos centrales actúan también como determinantes del desempeño financiero de las reservas soberanas de oro, el efecto de la mayoría de esos determinantes es opuesto para la demanda de oro y el desempeño financiero de las reservas de oro. Los determinantes ligados al desarrollo constituyen en general una excepción, ya que tienen los mismos efectos direccionales tanto en la demanda como en el rendimiento del oro. Por lo tanto, los resultados parecen confirmar la hipótesis 2.

La solidez de los resultados fue testada mediante 11 modelizaciones alternativas. Todas las modelizaciones alternativas utilizadas para probar la robustez del modelo de rendimiento anual del oro se aplicaron también a esta variable. Además, se realizaron 3 modelizaciones alternativas sustituyendo la variable dependiente "ratio de reservas de oro en relación con las reservas totales" por las variables sustitutivas "reservas de oro per cápita", "ratio reservas de oro/PIB" y "ratio reservas de oro/PIB per cápita". Además, se realizó una comprobación final de la robustez, reduciendo el número de observaciones mediante el uso de un panel de datos equilibrado. Los resultados de estas pruebas de robustez fueron en su mayor parte satisfactorios.

8. Conclusiones

En términos de **contribuciones**, esta tesis es (a nuestro leal saber y entender) el primer estudio comparativo sobre desempeño financiero en la gestión de reservas soberanas de oro. En ese sentido, amplía la literatura académica existente sobre las reservas soberanas de oro –que hasta la fecha se centraba en la relación entre el nivel de reservas de oro y las reservas totales– y contribuye a enriquecer la literatura académica sobre las reservas soberanas totales. Además, esta investigación incluye métricas innovadoras de reservas de oro como "reservas de oro per cápita" o "ratio reservas de oro/PIB per cápita", que contribuyen a una comprensión más profunda del panorama de las reservas soberanas de oro.

Este trabajo de investigación es también el primero (del que tenemos conocimiento) en estudiar la asociación estadística entre el desarrollo y el rendimiento financiero de las reservas soberanas de oro. Además, el desarrollo no se ha incluido como variable de una única dimensión (es decir, el PIB per cápita), sino que se ha medido utilizando diversas variables, como el Índice de Desarrollo Humano, el grupo de ingresos al que cada país pertenece, el nivel de ayuda oficial al desarrollo como porcentaje del PIB y cuatro variables de gobernanza: el imperio de la ley, el control de la corrupción, el índice de democracia y el índice de restricciones políticas.

Las variables de desarrollo mencionadas anteriormente también se utilizan en la modelización de los determinantes de la relación entre las reservas de oro soberano y las reservas totales, lo que representa una novedad, ya que no habían sido incluidas previamente por los académicos que han estudiado el tema.

Además de sus contribuciones a la literatura sobre reservas de divisas, este estudio también contribuye al debate sobre la economía del desarrollo, ya que identifica una dimensión adicional –la gestión y el rendimiento de las reservas soberanas de oro– en la que los resultados parecen sugerir la existencia de una brecha entre los países desarrollados y los países en desarrollo.

A pesar de sus contribuciones, esta tesis presenta una serie de **limitaciones**:

La medición del rendimiento de las reservas soberanas de oro se realiza en esta tesis a través de la variable "rendimiento anual de la gestión del oro", que es una variable calculada sobre la base de los datos trimestrales de adquisiciones/ventas de oro soberano proporcionados por el FMI y el World Gold Council. Si bien este nivel de detalle cronológico es suficiente para una primera investigación del rendimiento en la gestión del oro soberano, no permite un cálculo preciso de los ingresos y desembolsos, pues se desconoce el precio exacto al que el oro se ha negociado en cada transacción.

Si bien la orientación fijada para esta investigación es puramente cuantitativa, el estudio podría haberse beneficiado de una vertiente adicional de tipo cualitativo: investigación sobre eventos, situaciones y circunstancias –políticas, económicas, etc.– que pueden haber motivado operaciones concretas de adquisición o venta de oro por parte de países individuales. Las limitaciones de tiempo nos han impedido incluir este análisis cualitativo y contextual.

La investigación también podría haberse completado agregando datos primarios obtenidos a través de encuestas o entrevistas a gestores de reservas soberanas de oro. A este respecto, aunque se mantuvieron conversaciones con miembros del del Banco Central Alemán (Deutsche Bundesbank), con asociados del Gobierno de Angola y con analistas del World Gold Council, no se logró obtener contacto directo con gestores de reservas soberanas de oro.

Si bien se recogieron datos de un mayor número de variables económicas y de desarrollo, las limitaciones de tiempo nos obligaron a reducir la selección final de las variables incluidas en las modelizaciones.

Este estudio allana el camino para una investigación en mayor profundidad del rendimiento de la gestión de las reservas soberanas de oro. Las siguientes son algunas de las **vías de investigación futuras** que podrían explorarse:

- Estudio de la asociación estadística entre otras variables independientes y el desempeño financiero en la gestión de las reservas soberanas de oro mediante la inclusión de variables explicativas adicionales/alternativas en las modelizaciones.
- Investigación secundaria cualitativa sobre las causas específicas de las ventas o compras de reservas soberanas de oro por parte de determinados países, realizada a través de una revisión de artículos de prensa, publicaciones especializadas, etc.
- Investigación primaria cualitativa sobre las prácticas y estrategias de los gestores de las reservas soberanas de oro, realizada a través de entrevistas y cuestionarios a personas que desarrollan esta función en los bancos centrales.
- La solidez de este estudio podría reforzarse mediante la obtención de datos temporales que permitan un cálculo preciso de los ingresos y desembolsos de los países en sus transacciones de oro y la utilización de estos datos como insumos del modelo.
- Si bien el carácter comparativo de este estudio se centra en los países en desarrollo y desarrollados, podrían realizarse otros análisis comparativos de la gestión de las reservas de oro soberano, por ejemplo, atendiendo a las regiones geográficas u otros criterios de agrupación.
- Aunque existe cierta literatura sobre los niveles adecuados de reservas de oro, la validez de estas recomendaciones debería analizarse más a fondo a la luz de los resultados de esta tesis con relación a la prevalencia de rendimientos negativos en la gestión de las reservas soberanas de oro.

Finalmente, los resultados de esta tesis tienen dos **implicaciones prácticas** principales: en primer lugar, la asociación entre buen gobierno, bajos niveles de corrupción, separación de poderes y el desempeño financiero en la gestión de las reservas soberanas de oro aconseja la asignación de las decisiones relativas a las transacciones de oro soberano a los expertos de los bancos centrales, los cuales –en la medida de lo posible– no deberían estar sujetos influencias políticas; en segundo lugar, debido a las substanciales repercusiones de las decisiones de estos expertos en las finanzas públicas, la selección de estos especialistas debería realizarse entre los candidatos más cualificados y experimentados a nivel internacional, para una vez en su puesto ofrecerles formación continua y someterles a una evaluación periódica de su desempeño, con una posible vinculación entre resultados y retribución

CHAPTER 1: INTRODUCTION

It is estimated that a total of 175,000 tonnes of gold have been mined in history. The approximate market value of this volume of gold surpasses 7 trillion US dollars (April 2019), which is larger than the market capitalization of major stock exchanges such as London or Tokyo, and higher than the United States budget.

Out of the overall volume of extracted gold, 33,637 tonnes were held by central banks at the end of Q3 of 2018 (World Gold Council, 2019), which amounts to over 1,2 trillion USD – roughly the budget of the United Kingdom for 2018 (UK HM Treasury, 2018).

These sovereign gold holdings represent on average 10.7% of the foreign reserve portfolios of countries worldwide (Lakshmi, 2007). While the ratio of gold holdings to total reserves varies substantially by country –over 50% in Portugal, Italy, France, Germany, Greece and the Netherlands; and below 0.1% in Costa Rica, Nigeria and Hong Kong (Ghosh, 2016b)–, a majority of governments continue to hold gold in their foreign reserves portfolios due mainly to its contribution to financial stability, its liquidity and international acceptance when emergency funds are needed to confront financial shocks, its role as a currency exchange rate support tool and the lower credit and political risk profile in comparison to other reserve assets. Furthermore, the global financial crisis has led central bankers and reserve managers to adopt a flight-to-quality asset allocation strategy, strengthening gold positions in their portfolios.

While the performance of private portfolio managers and corporate treasurers is closely monitored and compared to those of peer professionals, in most countries this is not the case for central bankers and reserve managers responsible for sovereign gold holdings.

Taking into account the magnitude of sovereign gold holdings and the potential losses/gains that suboptimal/optimal transaction planning may generate, together with the fact that to the best of our knowledge no academic research exist to date on the financial performance of sovereign gold reserves –existing literature focuses on the determinants of gold demand by central banks (Ghosh, 2016a, 2016b; Gopalakrishnan & Mohapatra, 2018a, 2018b; Oktay et al., 2016)– we have felt that a study on the matter was necessary in order to shed some light on how public funds held in the form of gold reserves are being managed and optimized.

In an initial analysis of the average annual profitability of gold reserves transactions for the period 2000 – 2014 conducted for 100 countries, the distribution of results is clearly skewed towards negative returns. A study of the cumulative annual performance for the same sample and period reveals that 62% of countries lost money due to the suboptimal intra-year timing and sizing of their gold transactions. When whole-period performance is considered, similar results are obtained, with 58% of countries displaying an average gold selling price inferior to their average gold acquisition price. In the 15 year-period under study, the 5 bottom performing countries in terms of sovereign gold reserves management –India, Argentina, Spain, South Korea and Russia– incurred losses of over 1,4 billion USD (an average of almost 300 million USD per country). The preliminary findings described above are suggestive of suboptimal transaction planning and execution in a majority of gold holding countries. Therefore, studying the determinants of sovereign gold reserves financial performance may serve reserve managers to make more informed decisions when transacting gold and ultimately benefit public finances by reducing losses/maximizing gains in sovereign gold reserves transactions.

A preliminary study of the geographical distribution of sovereign gold management profits and losses suggests a higher prevalence of negative returns among developing countries (income groups 1, 2 and to a certain extent, 3). These initial findings, together with the academic debates on the link between democracy and income (Acemoglu et al., 2008; Goldsmith, 1995; Lipset, 1959) and the connection between governance, development and economic performance (Kaufmann et al., 2000; Kraay, 1999), leads us to the formulation of the main hypothesis of this thesis and to research whether development bears a statistical association with sovereign gold management performance and which development factors display a more marked link with sovereign gold reserves management performance.

This research work will focus on two dimensions of sovereign gold reserves management: the profitability derived from timing/sizing decisions on sovereign gold transactions, and the level of sovereign gold reserves in relation to total reserves and other metrics.

In both abovementioned dimensions two types of factors will be studied –which fit neatly with the research hypotheses of this work and constitute the main research aims of this thesis–: Development factors - hypothesis 1: development acts as a determinant of sovereign gold reserves financial performance; Other factors - hypothesis 2: Determinants of gold demand by central banks act as determinants of sovereign gold reserves financial performance.

In terms the objectives of this research, they will be –in addition to accepting/rejecting hypotheses 1 and 2– the following: provide the reader with an introduction to gold and the gold market; provide the reader with an introduction to foreign reserves asset allocation; provide the reader with a thorough literature review of existing academic studies on sovereign gold reserves determinants and total foreign reserves determinants; create a variable that permits a comparative assessment of countries/reserve managers in terms of the financial profitability generated from gold reserves; create a comprehensive database of potential determinants of gold demand by central banks and sovereign gold reserves management performance, which will serve for this thesis and for future research work on the topic (the selection of variables to be included in this database will be based on the variables studied in the academic literature on determinants of foreign reserves and gold reserves levels); formulate a number of recommendations aimed at gold reserve managers, top government officials and other stakeholders; identify potential lines of future research.

After conducting an introductory literature review on gold and the gold market to provide the reader with certain background information, a Theoretical Framework focusing on the determinants of foreign reserves and sovereign gold reserves is developed, which constitutes the base for the formulation of the hypotheses that will be tested in this work.

To test hypothesis 1, two methodologies are used. First, a cross section study of the overall 2000 – 2014 period performance is conducted. The sample used covers all countries holding and reporting to the IMF sovereign gold reserves which have bought and sold gold at least once during the period (a total of 89). Dependent variables are “performance” and “performance ranking”, while independent variables are “GDP per capita” and “GDP per capita ranking”. “Performance” is a calculated variable based on the difference between the average price of gold bought and sold by each country in the sample.

Second, a GMM panel study of annual sovereign gold management performance is conducted for the same 2000 – 2014 period. In this case, the sample size is 100 countries. The sampling differs from that used in the first methodology in one aspect: the sample used in the first methodology excludes countries not having bought and sold gold during the period covered by the study, while the sample used in the second excludes countries not having bought or sold gold during the period covered by the study. In this case, the dependent variable is "annual gold management performance". As in the previous methodology, it is also a calculated variable, although the calculation method differs. "Annual gold management performance" measures in percentage terms the value added to / deducted from a country´s gold reserves as a consequence of the optimal / suboptimal timing and sizing of the gold transactions executed in a particular year. In this methodology, a larger number of explanatory variables is used; and the selection of variables is based on the factors affecting gold demand by central banks and sovereign gold reserve levels identified in the Theoretical Framework.

To test hypothesis 2, the same GMM panel study methodology is used, as well as identical sample, period and explanatory variables. The dependent variable chosen is "ratio of gold reserves to total reserves".

This thesis is structured in 6 main chapters: introduction, literature review, research methodology, descriptive analysis, results and conclusions. These chapters are complemented by a bibliography and an appendix. The contents in each chapter are summarized below:

Figure 1: Chapters and contents

CHAPTER	CONTENTS
Introduction	Presents background information that helps the reader understand context and relevance of the research undertaken. Describes the focus, aims (hypotheses) and objectives of the thesis and introduces the methodology and structure that will be used to achieve them.
Literature review	Background literature review: allows the reader to develop a gradual understanding of sovereign gold reserves management by addressing first a number of general considerations on gold economics, market dynamics and pricing; covering afterwards the topic of sovereign gold reserves and total reserves; and introducing finally the question of development (concept, metrics and its potential relation to reserves performance/management). Serves as a stepping stone for the Theoretical Framework chapter. Theoretical framework: builds on the background literature review highlighting and grouping all relevant studies which directly or semi-directly focus on factors affecting how countries manage their sovereign gold reserves. This section covers total reserves determinants, gold reserves determinants and sovereign gold reserves financial performance determinants.
Research methodology	Hypotheses are presented in this chapter. In addition, this section discusses: research design/approach, alternative research approaches, population/sample/sampling techniques and procedures, limiting conditions,

	variable definition and selection, statistical treatment, research problematics/methodological caveats and unique methodological contributions/innovations.
Descriptive analysis	In this chapter, a number of graphs, tables and figures which help interpret the findings of the study are presented.
Results	Detailed results and robustness tests of cross section and panel studies are presented here. Most important information is compiled in the summarized results section. The section "Results Analysis" provides an interpretation of the results obtained.
Conclusions	The chapter summarizes content on the context and relevance of the research, the hypotheses formulated and the results obtained, the practical implications of the findings, the contributions of the study to academic debate and current knowledge of the topic, the limitations of the research and the scope for future investigation.

CHAPTER 2: LITERATURE REVIEW

1. Background literature review

The objective of this Background Literature Review is to allow the reader to develop a gradual understanding of sovereign gold reserves management by addressing first a number of general considerations on gold economics, market dynamics and pricing; covering afterwards the topic of sovereign gold reserves and total reserves; and introducing finally the question of development (concept, metrics and its potential relation to reserves performance/management). The selection of information and academic works reviewed in this background literature is done keeping always in mind its relevance and interest for central bankers involved in sovereign gold reserves management. This Background Literature Review also serves as a stepping stone for the Theoretical Framework sub-chapter, which will specifically address the body of academic literature on the determinants of foreign reserves levels, gold reserve levels and gold reserves financial performance.

1.1. Gold: an overview

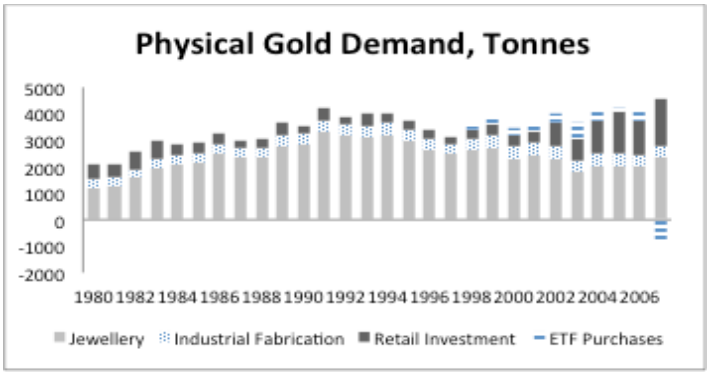
The relevance of gold in the world economy cannot be overstated; it is estimated that a total of 175,000 tonnes of gold have been mined in history, and the approximate market value of this volume of gold surpasses 7 trillion US dollars (April 2019), which is larger than the market capitalization of major stock exchanges such as London or Tokyo, and higher than the United States budget.

At present, the main markets for gold trading are London OTC, New York COMEX, Shanghai, Tokyo TOCOM, India MCX, Dubai and Istanbul (in order of volumes traded).

In terms of the types of financial transactions that can be carried out with gold, the spectrum is quite similar to that of other currencies or commodities: mainly spot transactions (physical and non-physical), futures, forwards, options, swaps, gold ETFs and gold lending.

One of the key elements to be understood by gold reserves managers is which factors affect gold prices and to what extent. As with other financial assets, one of the keys drivers of the price of gold is the **supply/demand** balance (or imbalance). Baker and Van Tassel (1985) argue that the most fundamental influences upon the price of gold are related to its commodity nature: demand and also supply. The largest source of demand for gold is jewellery, followed by investment gold, industrial fabrication and ETF purchases.

Figure 2: Demand for physical gold (in tonnes)



Source: O´Connor et al. (2015), based on GFMS Gold Surveys 2000-2013

Ideally, forecasted demand should be factored in when planning or scheduling future gold purchases/sales of gold by central banks.

When reviewing the academic research undertaken on gold demand and gold prices, views found on the relation between these two variables are diverse. For example, Batchelor and Gulley (1995) analyse the relation between gold demand for its use in jewellery and variations in the price of gold in six developed countries (USA, Japan, Germany, France, Italy, and the UK). Using a regression (SURE) model, the authors find price elasticities ranging from -0.5 to -1.0. Other authors, such as Mozes and Cooks (2013) suggest that factors influencing physical demand and gold prices are different on an annual and quarterly basis –they use data from 1992 to 2012– and they conclude that gold demand does not support gold prices.

Regarding gold supply, it is worth mentioning that the amount of gold available is very limited in comparison with other metals and goods. To illustrate this point, let us mention that all gold ever mined would form a cube whose sides would be less than 20 metres long and new gold coming into the market every year only represents between 1.000 and 3.000 tonnes (roughly 1% to 2% of total gold previously mined).

Regarding the supply of new gold from mining, some authors find that there is empirical evidence of increases in gold prices driving up gold mining volumes (Rockerbie, 1999; Selvanathan & Selvanathan, 1999) if a time lapse between the gold price increase and the mining volume augmentation of 5 to 8 years (time necessary to make the required capital investments for the exploitation of new mines) is allowed. Other authors (Krautkraemer, 1989; O'Connor, Lucey, & Baur, 2016) consider that higher gold prices make the exploitation of previously shut down high-cost mines or the processing of lower quality ore feasible –and vice versa–, which would in turn drive up overall gold production costs at firm and national levels. However, other academics, such as Erb & Harvey (2013), suggest that gold mining volumes are not affected by the increase in the price of gold (data analysed corresponds to the period after 2000). The idea that the influence of gold prices on production levels and costs is not bidirectional –gold production levels and costs being affected by gold prices and gold mining costs and gold production levels affecting gold prices– is accepted by a number of academics

and may be justified by the small percentage that annual inflows of new gold represent in respect to the totality of gold stock (1% to 2%). As an example, Borenstein & Farrell (2007) conduct a 28-year study of news about gold mining volumes shocks in the Wall Street Journal and they do not find evidence that those variations affect gold prices. In contrast, other authors consider the annual production of gold –and its inter-year volatility– a determinant of gold prices (Kaufmann & Winters, 1989), and other analysts argue that gold prices take gold mining costs as a floor level (Conway, 2014).

Other sources of gold coming into the market every year are scrap gold and gold sold by central banks and other official institutions –not new gold per se–. These sources combined have accounted for between 20% and 40% of the overall annual world supply of gold since 1980 (O'Connor et al., 2015).

Feldstein (1980b), in line with Salant & Henderson (1978), suggests that disbursements of gold by centrals banks should negatively affect its price. It seems that this situation –the Bank of England announced in 1999 that it would be significantly reducing its gold reserves– coupled with the augmentation of gold mining activity in that period coincided with a decline in gold prices. However, through the Washington Agreement on Gold (WAG) –also known as the Central Bank Gold Agreement (CBGA)–, signed in 1999 during the International Monetary Fund annual meeting, the central banks of most European countries agreed not to sell more than 400 tonnes of gold per year over a period of 5 years following the signing of the agreement (Orellana, 2001). Soon after, Japan and the US also expressed its intent to follow the WAG, and the IMF agreed to only sell gold when approved by 85% of its Executive Board (this gives a *de facto* veto power to the US) (Bernholz, 2002). The agreement was renegotiated in 2004 (the IMF did not sign the 2009 agreement) and again extended in 2009 and 2014. Current signatories of the CBGA are: The European Central Bank (ECB), the Nationale Bank van België/Banque Nationale de Belgique, the Deutsche Bundesbank, Eesti Pank, the Central Bank of Ireland, the Bank of Greece, the Banco de España, the Banque de France, the Banca d'Italia, the Central Bank of Cyprus, Latvijas Banka, the Banque centrale du Luxembourg, the Central Bank of Malta, De Nederlandsche Bank, the Oesterreichische Nationalbank, the Banco de Portugal, Banka Slovenije, Národná banka Slovenska, Suomen Pankki – Finlands Bank, Sveriges Riksbank and the Swiss National Bank (World Gold Council, 2015b). The limitations that the WAG imposes on gold disbursements by central banks may contribute to a certain extent to support gold prices and avoid prices to plummet suddenly through the years.

Scrap gold comes from re-melting old jewellery and, to a lesser extent, electronic components containing gold. Although there seems to exist a correlation between gold prices and scrap gold supply, we are not aware of relevant academic studies validating this hypothesis.

Therefore, while comprehensive academic studies on the influence of the overall supply of gold on prices do not exist (to the best of our knowledge), it may be prudent for central bankers planning to undertake gold transactions in a particular year to understand the gold supply situation in that year.

As with other asset classes, the possibility of monthly (or season) **seasonality** existing in gold prices has also been studied. Intuitively, this seasonality could be linked to factors such as festival months in China and India, religious holidays (Christmas) in Christian countries and other events that increase the demand for gold. One of the first authors to study seasonality in the case of gold was Tschoegl (2006), who analysed the daily mean return of gold from 1975 until 1984. He undertook three types of analyses and found some evidence of seasonality in

only one of them. In this line of research, and building on the work undertaken by Bouman & Jacobsen (2002), Lucey & Zhao (2008) and Andrade et al. (2013), Baur (2013) assesses the seasonality of gold prices over the course of three decades (1980 to 2010). The results show that positive gold price changes occur in September and November and that these variations are statistically significant. Baur indicates that the seasonality may be explained by three main factors: demand by investors to use gold for hedging before the "Halloween effect"[1] on stocks, the increase in demand generated by the wedding season in India and the inclination of investors to buy gold instead of other asset classes with the arrival of shorter daylight time. Qi & Wang (2013) use a shorter period –December 2002 to November 2011– to investigate the presence of seasonality in the Chinese gold market. The authors find, in line with Baur, that monthly average returns are higher in September and November (and also in February). Using a different model, Qi & Wang broaden the months with superior gold price performance to include also April, August and December. The authors point out that the majority of these months precede the denominated Chinese "golden weeks", which push up gold demand. Naylor et al. (2011) study the situation for gold ETFs and observe that significant differences with the physical asset do not exist, as ETFs track physical prices very closely. In another study, Naylor et al. (2014) also identify higher than average price appreciation in November (although with a lower significance level than the one obtained by Baur) and in September (this one was found insignificant, though). The period analyzed by the authors is shorter than the one used by Baur and Qi & Wang, as the study covers from November 2004 until December 2011.

In addition to monthly seasonality, intra-week "seasonality" may also exist in the gold market. In this respect, Ball et al. (1982) found higher than average price appreciation on Wednesdays and higher than average price depreciation on Tuesdays. Ma (1985) reaches similar conclusions about Wednesdays. Lucey & Tully (2006) and Blose & Gondhalekar (2013) also find evidence of weak intra-week "seasonality" in gold prices (as cited in O'Connor et al. (2015)).

Finally, a number of studies on the intra-day price discovery (price formation) contribution of the main gold markets exist. Lucey et al. (2014) –using the spill over index approach developed by Diebold and Yilmaz (2009) for the equity markets– that the London cash market and COMEX are the two main contributors to price formation and that the transmission of price information between both is very marked. As traders of other financial assets do, agents trading gold for central banks can benefit from this intra-day price discovery information to optimize the timing of their trades. Xu & Fung (2005) have examined patterns of price information flows between Tokyo TOCOM and New York COMEX. Their findings have been that gold price evolution in COMEX influences TOCOM prices 600% more than Japanese gold trading affects that conducted in the US.

Considering the abovementioned studies, it seems advisable for central bankers trading gold to sell or lease physical gold to third parties when gold seasonality drives prices up (i.e. November and –to a lower extent– September and February) and when intra-week "seasonality" also favors their interests (i.e. Wednesdays). Inverse logic would apply to transactions of the opposite sign. Furthermore, these investors should not forget to follow the price evolution of gold in other markets, which may represent valid intra-day price discovery tools.

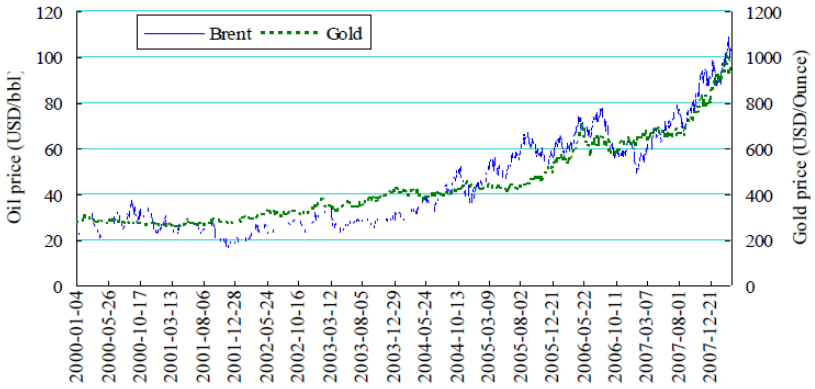
[1] The Halloween effect is a bullish period in diverse indexes and geographical markets experienced from the end of October to the end of April/May. During the years 1926 to 1999, the returns obtained by investors purchasing stocks at the end of October and selling at the end of May would have quadrupled that obtained by investors purchasing at the beginning of June and holding their stock until the end of October (Bouman & Jacobsen, 2002).

One of the key elements to maximize capital gains (or minimize losses) from the sale of gold is, as we have just seen, to time the transaction correctly; that is, to transact the gold in the most favorable moment of the month, week or day. However, as important as timing might be, there are also a number of additional considerations that may help central bankers transacting gold to optimize their trades. The following factors are some of the most relevant ones for which research has been undertaken.

Since gold is normally traded in US dollars, it has been extensively argued that the **exchange rate** of this currency is one of the key factors affecting gold prices and therefore needs to be carefully followed by central bankers involved in gold trading. The underlying reason that explains this phenomenon is the currency-like features of gold. Therefore, when a currency such as the dollar is losing value against other currencies it is also losing value against gold. Tully & Lucey (2007) undertake an analysis of the cash and futures prices of gold and significant economic variables for the period 1983 – 2003. Using an APGARCH model, the authors confirm the influence of the dollar exchange rate on the price of gold. Other authors, such as Sari et al. (2010), concord with Tully & Lucey´s results and find that evidences of weak long-run and strong short-run equilibrium trends exist between gold prices and the US dollar/euro exchange rate. Zhang & Wei (2010) find a correlation coefficient of -0.9070 between the Nominal Broad US Dollar Index and the price of gold for the period 2000 – 2008. Using Granger methodology, these authors observe that a 1% depreciation of the US dollar index translates into a 4.4% increase in the price of gold.

It may also be advisable for central bankers to look at **oil prices** trends when planning transactions on gold. The "simple" explanation for this price connection is the fact that higher oil prices contribute substantially to inflation, and inflation is a driver of gold prices (O'Connor et al., 2015). In this line, Baffes (2007) studies the 1960 – 2005 period and finds that the pass-through of crude oil price variations is highly marked in the case of precious metals (a 1 US dollar increase in the price of crude oil would result in gold price climbing 0.34 US dollars). A number of later studies confirm Baffes´ findings. For example, Narayan et al. (2010) test the relation between gold and oil futures over the long term and observe the existence of correlation for different contract maturities. From their study, the authors imply that gold is used by investors as an inflation hedge and that trends in oil prices can be used to forecast gold prices. While the amount of data used in the study and analysis performed seem insufficient to soundly support this latter statement, authors such as Zhang & Wei (2010) analysed the period from January of 2000 to March of 2008 and obtained a positive correlation coefficient of 0.9295 between oil and gold prices, suggesting a long-term and short-term equilibrium (even in intra-day pricing) between the two commodities. Furthermore, when evaluating the price influence of one commodity on the other if a 1-day lag is factored in, the authors find that the influence of oil prices on gold is significant. Zhang & Wei (2010) attribute this phenomenon to the fact that both crude oil and gold are quoted and invoiced in US dollars and therefore fluctuations in the exchange rate of the dollar tend to affect both oil and gold. The authors also make an interesting additional observation about the relation between heavier investment in gold from oil producing countries when oil prices –and therefore oil revenues– increase, which would contribute to drive gold prices up. While the observation seems theoretically plausible, Zhang & Wei (2010) do not back it up by any specific empirical data and/or existing academic research on the matter.

Figure 3: Crude oil and gold prices



Source: Zhang & Wei (2010)

It is also important for central bankers transacting gold to understand whether **macroeconomic indicators** such as unemployment rates, gross domestic product (GDP), consumer price index (CPI), etc. influence the price of gold.

The relation between gold prices and **inflation** has been abundantly researched, with the majority of these studies focusing on the price of gold in US dollars and the US CPI. The fact that gold is a very limited commodity and its supply is relatively inelastic (at least in the short term, because the exploitation of new mines takes time) puts gold at an advantage with money, as the supply of the latter can be easily widened, and its value subsequently reduced. In this type of inflationary scenarios, gold would be more likely to hold value than fiat money. Even in non-inflationary situations, gold should hold its value better than fiat money, since total gold stock increases from 1% to 2% per annum and average gold GDP growth is substantially higher (O'Connor et al., 2015).

A good number of authors have researched whether gold acts as a hedge against US inflation. The results of the majority of these studies indicate that gold is a strong hedge against inflation in the United States (Levin et al., 2006; Levin et al., 2010; Taylor, 1998). A number of theoretical reasons explain this phenomenon:

- In inflationary periods, interest rates tend to increase to partially compensate the loss of purchasing value of fiat money. Since gold cannot be printed, rational investors will only hold gold if its price increase cancels out the erosion in purchasing power caused by inflation (Feldstein, 1980b). The author observes that gold returns must be higher than inflation to compensate the rational investor, as taxation of capital gains needs to be factored in.
- Gold extraction costs are affected by inflation. Therefore, it can be reasonably expected that mining companies will increase the price of the gold that they sell during inflationary periods (Levin et al., 2006).

An argument that seems to play against the rationale of gold prices being correlated with inflation is the existence of a gold leasing market, which compensates gold owners generating

interests and therefore makes price increases unnecessary to maintain purchasing power when holding gold (Levin et al., 2010).

While the abovementioned research studies the relation between gold prices and inflation in the medium and long term, Christie-David et al. (2000) find that the release of monthly Consumer Price Index (CPI) and Purchaser Price Index (PPI) data in the US strongly affects gold prices. Similar results are obtained by Roache & Rossi (2009) when they examine inflation announcements in the US and the Euro Area.

Although the relation between gold prices and the US CPI is well researched, this is not the case for the relation between gold prices and inflation in other currencies. At the time of writing, the most comprehensive study on the topic had been carried out by Beckmann & Czudaj (2013). The authors use PPI and CPI data from the United States, Japan, the United Kingdom and the Euro Area for the period comprising 1970 to 2011. Results of the study show the potential of gold to partially hedge CPI increases. However, the authors find that this capability varies from economy to economy, being higher in the US and the UK and almost irrelevant in the Euro Area and Japan, and only applicable to long term investment horizons.

Central bankers transacting gold may find the abovementioned academic research useful. In short, the conclusion for practitioners would be that gold prices exhibit a correlation with US inflation and therefore may reasonably expect their sovereign gold reserves to increase in value (US dollar value) when the United States is experiencing periods of high inflation, but not necessarily when other economic blocks are affected by the same scenario.

Turning now to a different macroeconomic indicator, **unemployment**, Christie-David et al. (2000) find that the release of unemployment rates in the United States has an effect on gold prices. These authors also find that the release of **GDP** figures in the United States affect the prices of gold and that the announcing of federal **deficit / superavit** numbers in the United States does not have a significant effect on gold prices. In the same line, Christie-David et al. (2000) discover that the release of **hourly wages**, **business inventories** and **construction spending** data in the United States does not have a noticeable effect on gold prices. In contrast, Roache & Rossi (2009) find that the release of **retail sales** and **non-farm payrolls** figures in the United States and the Euro Area influences the price of gold, and observe that gold tends to increase in price when negative surprises on the expected figures occur (the authors ascribe it to the safe-haven characteristics of gold for risk averse investors).

Cai et al. (2001) observe that the release of macroeconomic indicators affects the price of gold and the volatility of gold prices (in order of importance: employment reports, GDP and CPI).

Batten et al. (2014) also find that CPI affects gold price and gold price volatility, together with stock market returns and dividend yields.

From the limited body of academic literature on the topic, it appears that considering macroeconomic and financial variables such as the ones mentioned may help optimize the planning and timing of gold transactions. Considering these results, central bankers transacting gold may want to time their purchases and sales to avoid the volatility associated with days when the abovementioned macroeconomic indicators are released. Furthermore, the existence

of a cyclical bias in the referred macroeconomic indicators may be reproduced to a certain extent by a cyclicality in gold prices.

While not strictly macroeconomic indicators announcements, other **news** have also been found to affect gold prices. In this line of research, Smales (2014) analyzes the relation between reactions to the news and gold prices, and finds that positive news have less of an effect than negative ones. The author also concludes that news in periods of recession produce a stronger effect than news during non-recession times. Interestingly, Smales also observes evidence of initial gold price overreactions to news. Once again, this may prove useful for central bankers when timing their gold transactions.

An under-researched area in gold investment is **behavioral finance**; or the factors affecting investors´ behavior. While psychological aspects influence the trading style of individual investors and other participants in the gold market, they also play a role in the transactions undertaken by central bankers.

Aggarwal & Lucey (2006) –using data from 1980 to 2000– find that psychological barriers exist in gold prices, with round numbers (for example, hundreds, thousands) acting as floors and ceiling for prices of gold. In addition, the authors observe that the conditional mean, the variance and the volatility of gold prices are intensely affected when gold is trading near psychological barriers. Lucey & Dowling (2011) investigate whether investors´ mood exerts an effect on the price of gold using "mood proxies" such as weather, biorhythms and days of the week; they conclude that those "mood proxies" do not seem to play a relevant role in gold pricing.

Gold price manipulation attempts is another factor that must be taken into considerations by central bankers and other participants in the gold market, as these attempts may materialize in variations in the price or volatility of gold.

Baur (2016) makes a very pertinent distinction between the "gold reserves management" and the "gold price management" undertaken by central banks. The former would refer to the purchase or sale (and other transactions) of gold undertaken with the intent of modifying the gold holdings of a particular central bank, while the latter would relate to the purchase or sale (and other transactions) of gold undertaken with the objective of influencing the price of gold. While the body of this research piece is focused on gold reserves management, we briefly address "gold price management" practices by central banks.

Several organizations, academics and other parties have claimed that gold prices are partially controlled or managed. Among these, one of them most vocal actors is the Gold Anti-Trust Action Committee (GATA). The proponents of the existence of this manipulation argue that since central banks control the issuance of fiat money, they have a vested interest in maintaining a relatively stable price for gold. This rationale is related to the quasi-currency characteristics of gold and to the lack of confidence in fiat money that a spike in the price of gold would cause. If these doubts on the value of fiat money were to materialize, the most affected currencies would be those issuing currencies used as international reserve instruments (i.e. the dollar and, to a lesser extent, the euro). Therefore, the Federal Reserve and the ECB would be the parties with a stronger interest in keeping gold prices from rising excessively (Baur, 2016). It is particularly important for central banks to control gold price hikes during financial crises. Baur

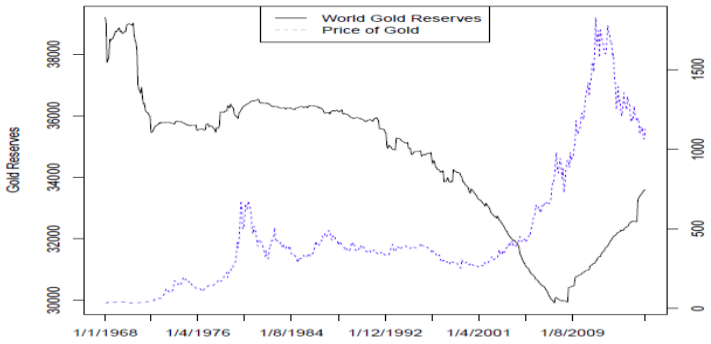
also points out that a marked decrease in the price of gold would be almost equally worrying for a central bank, as it would erode the market value of its foreign reserves and could debilitate its currency. Therefore, as central banks have powerful reasons not to allow excessive oscillations in the price of gold, they would be inclined to manage –or manipulate– it (in the same manner as they influence interest rates, inflation or currency exchange rates).

Publicly disclosed agreements such as the CBGA are entered into by central banks to partially coordinate their sovereign gold reserves management strategies. Other non-publicly disclosed understandings are suspected to also exist.

Baur discusses the tools that central banks have at their disposal to control or mitigate gold price swings. In terms of limiting gold price augmentations, central banks can sell portions of their gold reserves. However, for a significant number of important central banks, these amounts are limited by the CBGA. Another tool at the disposal of central banks against gold price hikes would be, at least in theory, the rising of interest rates so that holding gold becomes unprofitable for investors. When it comes to combating reductions in the price of gold, the arsenal available to central banks is more powerful, as they could simply purchase larger quantities of gold and finance them, if necessary, with the creation of theoretically limitless amounts of fiat money (of course this would be difficult to implement in practice, as a very significant and fast increase in the monetary mass of a currency would be very likely to debilitate it and decrease its value in relation to gold). Therefore, according to Baur, an asymmetry exists in the capacity of central banks to control the tendency of gold prices to increase and decrease, being more limited in the former than in the latter.

By analysing time series of gold prices and world aggregate central bank gold reserves from 1965 to 2015, Baur observes that a consistent and significant relation between the two variables for the totality of the period under consideration does not exist. However, the author finds a positive correlation between 1996 and 2000, and between 2009 and 2011, as well as negative correlations between 2002 and 2008, and between 2012 and 2015. Baur ascribes the negative correlation to central banks buying gold when gold prices were declining and vice versa. From the study of these time series, Baur also concludes that the price of gold is not affected by an increase in the amount of gold available for sale, while an increase in the level of purchases pushes gold prices up. This empirical finding supports Baur´s hypothesis on the asymmetric capacity of central banks to control gold price augmentations and diminutions. Contrary to Baur´s view on the lack of impact on gold prices of an increased availability of gold for sale, Salant & Henderson (1978) find that indications about central banks selling gold reserves tend to make gold prices decline, with potentiality for that decline being larger when indications relate to central banks holding substantial gold reserves. Baur explains that signals of the opposite sign –the announcement of the CBGA in 1999, limiting signatory central bank gold sales to 400 tonnes per year– coincided with a considerable increase in the price of gold, which passed from 260 US dollars to around 330 per ounce.

Figure 4: Global central bank gold holdings and gold price

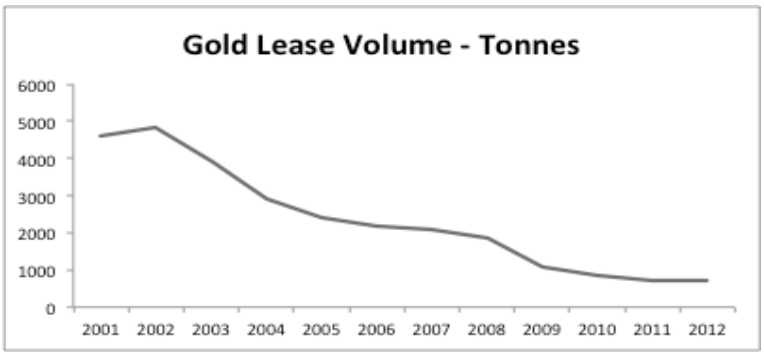


Source: Baur (2016)

Until this point, we have not covered **gold lending, gold backed swaps, gold ETFs** and other **derivative** financial products related to gold. While neither gold lending nor gold derivatives and other financial products represent a significant percentage of the gold transactions carried out by central banks, they may constitute a valid tool to increase financial return on gold holdings. Furthermore, central bankers may need to follow the price evolution of gold derivatives, particularly futures and ETFs, for indications on how future prices of gold may evolve (Ivanov, 2013; Pavabutr & Chaihetphon, 2010).

Gold supply for the leasing market (also referred to as lending market) is sourced primarily from central banks and other banking institutions with substantial gold holdings, which enter into this type of transaction to generate some income from their gold reserves. Parties interested in taking gold loans have traditionally been gold miners and jewellers (O'Connor et al., 2015). However, gold lease volumes have been relatively small and declining in recent years. While central banks have shown more interest in lending increasing quantities of gold (due to its higher prices in recent years), this same price increase has disincentivized borrowers (Baur, 2016).

Figure 5: Gold lending volumes



Source: O´Connor et al. (2015), based on GFMS Gold Surveys 2000-2013

In gold lending transactions, central banks lend gold to other banks, which in turn lend it to gold mining companies. These firms sell the gold borrowed to finance their mining operations and repay the borrowed gold with the new gold extracted. Intermediary banks can also choose not to lend the gold to gold mining companies and sell it instead, investing the proceeds in other financial assets –normally fixed income investment vehicles–, which generate a yield (or return). This practice is known as "gold carry trade". The interest of this investment strategy is that when gold prices do not increase by the maturity of the gold loan, banks are able to purchase again the amount of gold received from central banks at the same price or at a lower one plus the percentage of gold stipulated as interest in the gold lending agreement –which normally is lower than the yield obtained by the bank from the fixed income investments–, return the gold to the central banks and retain the profit from the scheme (Baur, 2016).

Baur also undertakes an analysis of the returns obtained from the gold carry trade and determines that this strategy was in most periods not profitable, as the difference between the interest rates obtained from fixed income investment vehicles and the gold lease rates were not sufficiently high and could not compensate gold price appreciation (the study considers exclusively transactions in US dollars). However, the author finds that for the period comprising the years 1989-2000, investors engaging in the gold carry trade were able to obtain positive returns (due to the stability of the price of gold). Furthermore, when gold prices are declining the demand for borrowed gold increases and, subsequently, gold lending rates increase. This generates additional selling pressure on gold, reduces its prices and increases the gains of those investors undertaking gold carry trade operations.

In a gold swap, one of the parties in the transaction –in our case a central bank– sells gold to another party, agreeing to purchase it back at a later date. In this manner, gold swaps are used as a sort of collateral. This scheme is heavily practiced in China, where the World Gold Council (WGC) estimated that 1,000 tonnes of gold were tied up in financing deals –gold swaps and assimilated contracts– in 2013 (O'Connor et al., 2015). Detailed research on whether developing countries use their gold reserves to obtain credit is not available at present.

While central bankers do no normally invest in gold ETFs, it may be relevant for them to be aware of the amount of funds invested globally on these financial products, as it has been argued that the speculative money reaching these funds –with their frequent transactions– increases gold price volatility (Zhang & Wei, 2010).

1.2. Sovereign gold reserves and total reserves

The holding of gold by central banks was necessary in the **gold standard system**. The gold standard is a type of monetary system based on the fact that the value of a monetary unit is fixed by reference to a certain amount of gold. Under the gold standard system, the issuer of monetary units is supposed to possess the amount of gold equivalent to the monetary units it issues. Therefore, the gold standard established the value of a country's currency on the basis of the gold that that country had.

The gold standard was first used in England in 1818 (Eichengreen, 1997), and the use of this equivalence between gold and money spread during the nineteenth century, as a result of the need to implement stable exchange rates for currencies in order to promote world trade. The system remained in full force until after the First World War, when the drawbacks of the gold standard began to be considered. In 1944 and following the conference organised by the United Nations, the use of the dollar as a global currency was approved, although the use of the gold standard was maintained until 1971.

In that year the gold standard ceased to be used worldwide when the American President Richard Nixon decided to abolish its use, thus ending the link that existed between gold and the world monetary system. Nixon´s decision was echoed by many other countries, to the point that today gold convertibility is considered virtually abolished worldwide. Therefore, banknotes and coins issued nowadays by the central banks have no strict relation with gold.

In theory, once central banks would no longer obliged to convert banknotes into gold, gold reserves would not be needed. However, under the current monetary regimes based on the printing and management of discretionary amounts of paper money, central banks have not abandoned the practice of holding a fraction of their overall foreign reserves portfolios in gold.

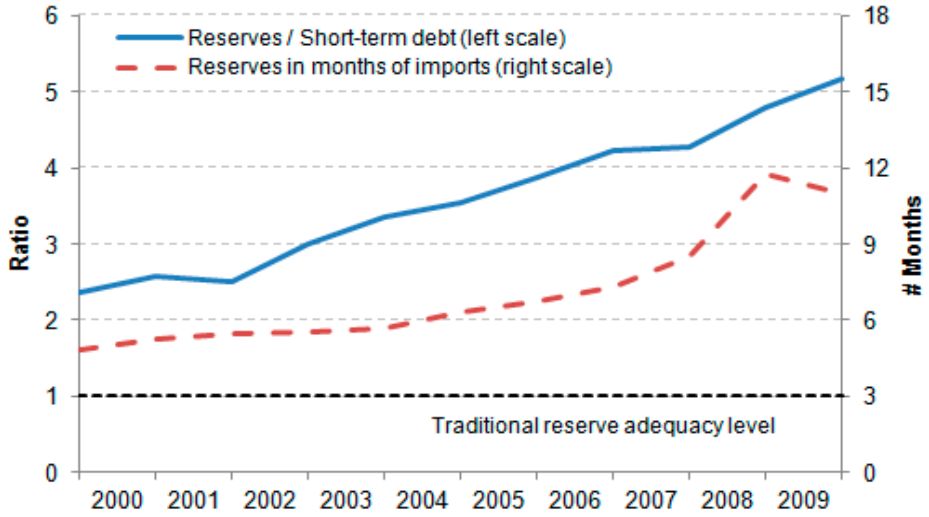
While the holding of gold reserves may not be absolutely essential in today´s monetary system, most economist would argue that the holding of foreign exchange reserves cannot be avoided. The reasons that make the holding of foreign reserves necessary are multiple. First and foremost, foreign exchange reserves constitute a valuable monetary policy instrument. For example, if a central bank raises the amount of reserves held –provided that no other actions are implemented– there will be an increase in the currency in circulation and therefore on the liquidity of the economy. This augmented liquidity pumped into the economy may lead to an expansion of credit and to inflationary pressures , and may jeopardize the monetary policy objectives of the central bank. To prevent increases in reserves from generating added liquidity in the economy, central banks have a number of tools at their disposal, being a net reduction in net domestic assets or an increase in the obligatory reserve deposits that commercial banks must hold with the central bank the most widely used (Alberola & Serena, 2007).

In the case of countries using a currency pegged to another currency, foreign exchange reserves –of which gold almost always represents a percentage– are necessary to support that parity; in the case of countries with free floating currencies, national governments and monetary authorities are reluctant to accept the volatility of real free floating systems and often intervene in the currency markets to depreciate or support their currencies –creating what is denominated "dirty floating"– though the purchase or sale of foreign and/or national currency, which creates a need for the holding of a foreign exchange reserves portfolio (which includes gold in the vast majority of cases) (Bernholz, 2002). Lakshmi (2007) adds an additional justification for maintaining foreign exchange reserves: the contribution to financial stability. The author argues that reserves help absorb or mitigate shocks of various natures (financial consequences of natural catastrophes, drastic changes in exports/imports, difficulty of access to foreign capital markets, major fluctuations in the currency account, etc.). Investors also pay close attention to the level of foreign reserves held by a country to support and defend its currency and, when the level is considered insufficient and consequently a speculative opportunity is identified, investors can launch an attack on the currency and substantially influence its exchange rate (with the subsequent negative consequences for the country in terms of trade and other macroeconomic indicators). Furthermore, a vast majority of countries has external debt; the holding of an adequate level of foreign exchange reserves ensures that the country has sufficient

resources to fulfil this type of liabilities. Finally, the perceived sufficiency (or insufficiency) of foreign exchange reserves carries substantial weight in the analysis undertaken by credit rating agencies when evaluating the creditworthiness of a country. Therefore, reserves levels are closely connected to interest rates paid by countries to borrow in the international capital markets and indirectly have an impact on the amount of tax money that remains after debt service, which can be made available for other uses (Reddy, 2006). In summary, the need to hold foreign reserves under floating exchange rate regimes has been extensively justified in academia and is practiced by virtually all countries. The convenience/necessity of holding a percentage of those foreign reserves as physical gold has generated more controversy, and debate is still ongoing about the optimal asset allocation that a portfolio of foreign reserves should adopt.

There is abundant research on the topic of **optimal levels of international reserves**. While it is beyond the scope of this work to offer a comprehensive literature review on this matter, Cheung & Ito (2009) offer an interesting and, to a certain extent, summarizing view on the topic: "changing world economic environment makes the optimal level of international reserves a moving target". The authors also point out that with the occurrence of dramatic events, demand for international reserves may increase. An example of this predicament is the augmentation of foreign reserves that occurred after the Asian crisis in most countries in the region. While before that crisis, the equivalent of 3 or 4 months of foreign imports was deemed to be sufficient as a foreign reserves threshold, the fact that the crisis lasted for many months made authorities realize that –in that particular environment– 3 to 4 months of reserves were inadequate. More modern assessments of the adequacy foreign reserves levels incorporate ratios of debt (especially short-term), volatile cash flows and imports to total reserves, and argue that foreign reserves are considered adequate if they cover the foreign debt maturing within 1 year. In that line, the International Monetary Fund (IMF) suggests that holding foreign reserve in excess of that level does not contribute to further reduce the risk of crises occurring (Lakshmi, 2007). The decision on the level of reserves to hold is important because the funds held as foreign reserves carry an opportunity cost (they could be invested in more profitable –non-treasury– investment vehicles and generate a higher return, or they could be used to finance infrastructure or other productive investments domestically –which in turn would also contribute to increase GDP–). This increment is not negligible, as for the 10 leading holders of excess reserves it is calculated to be between 1% and 2% of GDP annually (Summers, 2007). This cost of carrying reserves is termed "quasi-fiscal cost" by Reddy (2006), who describes it as the difference between the interest rate on domestic securities and the return achieved with the foreign exchange reserves adjusted for exchange rate variations. This author also estimates it at around 1% of GDP.

Figure 6: Evolution of reserve adequacy ratios



Source: Philman & Hoorn (2010), based on International Monetary Fund, World Economic Outlook

Considering that a level of foreign reserves exceeding the foreign debt maturing within 1 year is considered unnecessary, a number of countries receiving unexpected increases in export revenues –such as oil producing nations– have had to develop mechanisms to manage these positive external shocks, as an overabundance of export revenues may have negative consequences for the economy, such as an appreciation in the exchange rate and a subsequent loss of competitiveness of export products. To avoid this scenario, denominated "Dutch disease", several countries have created public organizations to manage the investment of these surplus funds, therefore avoiding excessive volatility in revenues, undesired liquidity and, in some cases, saving for future generations (Reddy, 2006).

Figure 7: Sovereign Investment Funds

World's Largest Sovereign Wealth Funds, 2015 Estimates

Fund	Country	Assets (US$ billion)
Government Pension Fund (NIBM)*	Norway	873
Abu Dhabi Investment Authority (ADIA)*	UAE	773
China Investment Corporation (CIC)	China	747
Kuwait Investment Authority (KIA)*	Kuwait	592
State Administration of Foreign Exchange (SAFE)	China	547
Hong Kong Monetary Authority (HKMA)	Hong Kong	400
Government Investment Corporation (GIC)	Singapore	344
Qatar Investment Authority (QIA)*	Qatar	256
National Social Security Fund	China	236

Source: Sovereign Wealth Fund Institute
*Hydrocarbon funds

Source: International Monetary Fund (2015)

Once the level of foreign reserves to be maintained is set, central bankers and government authorities must decide on the composition on those foreign reserves. Reddy (2006) observes a trend –beginning in the 70´s– among reserve managers of shifting funds to higher yield/higher return instruments. However, the author indicates that while the risk/return equation has moved upwards, the currency composition of reserve portfolios has not varied significantly –with the exception of gold, as will be discussed later (Lakshmi, 2007)–. Wooldridge (2006) argues that shifts in the composition of foreign reserves do not necessarily imply a modification in asset allocation. The author uses two reasons to explain this statement. First, data mostly reflect gross reserves, but do not include associated liabilities. Second, most available studies also fail to reflect instruments (for example, financial derivatives) used by reserve managers to hedge portfolio risks, which may distort the risk profile and exposures of a country´s foreign reserves portfolio.

The trend to shift reserve funds to higher return investment vehicles has led to the emergence of what is termed "quasi reserves" by Reddy. This new category of funds can be used by the Government under a different set of rules than those applying to traditional foreign exchange reserves. One example would be Singapore, where the Government of Singapore Investment Corporation and the Monetary Authority of Singapore share responsibilities in the management of foreign exchange reserves. The former handles the majority of the country´s investments (not limited to traditional treasury type foreign exchange reserve investment instruments), while the latter manages reserves necessary to assure the stability of the Singapore dollar. South Korea and China can be quoted as other examples of countries where separate government agencies manage "quasi reserves". In South Korea we find the Korean Investment Corporation; in China, the Central Huijin Investment Company was established in 2003 –with funds from the foreign reserves held with the People´s Bank of China– to, among other purposes, purchase shares in commercial banks which needed to be recapitalised (Reddy, 2006).

When assessing the adequate percentage of gold in the overall foreign reserves of a country, the first decision to be adopted by central bankers is whether to hold gold at all. While there may be reasons for central bankers to invest the totality of the foreign exchange portfolio in more lucrative –while safe– financial instruments, it is general practice among central banks to allocate a part of their foreign exchange reserves portfolio to physical gold. The justifications presented by Lakshmi (2007) are the high liquidity of gold in case of emergency and the perception of gold being the ultimate support of value for a currency. The authors refer a number of examples in which gold has been used by various countries in distressed times to secure loans, buy supplies during wars, etc.

When deciding on the optimal ratios of gold reserves to total foreign exchange reserves, central bankers must pay considerable attention to the risk/return profile of gold and compare it with that of other financial assets suitable to be included in a foreign exchange reserve portfolio.

In terms of financial return, the total return of gold holdings can be calculated taking into account the appreciation (or depreciation) of the gold, the yield obtained (generated by gold loans, options, etc.) and the associated costs (storage, etc.) and must be compared with the total return generated by foreign currency denominated money market instruments[2] –and other

[2] Money market instruments are financial instruments that allow for investment, borrowing and lending of large sums (issuances are normally in multiples of 1 million USD) for periods of time not exceeding 1 year. The main instruments of this type are:

foreign currency denominated components of the foreign reserves portfolio– adjusted for exchange rate variations. While the yield obtained by central banks from money market instruments is normally superior to the yield generated by loaning gold and carrying out transactions on gold derivatives, money market instruments present a substantial exposure to foreign exchange risk which may reduce or erode its higher yield[3]. Concerning the potential for capital appreciation/depreciation, it is substantially lower in the majority of money market instruments than in the case of gold (not taking into account currency exchange variability, considered separately). Bernholz (2002) undertakes a comparative study of the total returns of gold and money market instruments from 1930 to 2001 in relation to the Swiss franc (see Theoretical Framework sub-chapter).

In addition to the foreign exchange risk present in foreign currency denominated financial instruments integrating a central bank´s foreign reserves portfolio, assets denominated in non-domestic currencies carry market (related to the reliability of the debtor) and political risks. Since central banks are normally allowed to invest only in highly rated financial instruments, both market and political risks are close to negligible in most scenarios. However, there are instances, such the blockage of Swiss assets by the US from 1941 until 1946 (Bernholz, 2002), in which political risk materializes and affects central banks. Market risk also became a reality during the European sovereign debt crisis (Lane, 2012). Physical gold held domestically is not exposed to these two risk factors.

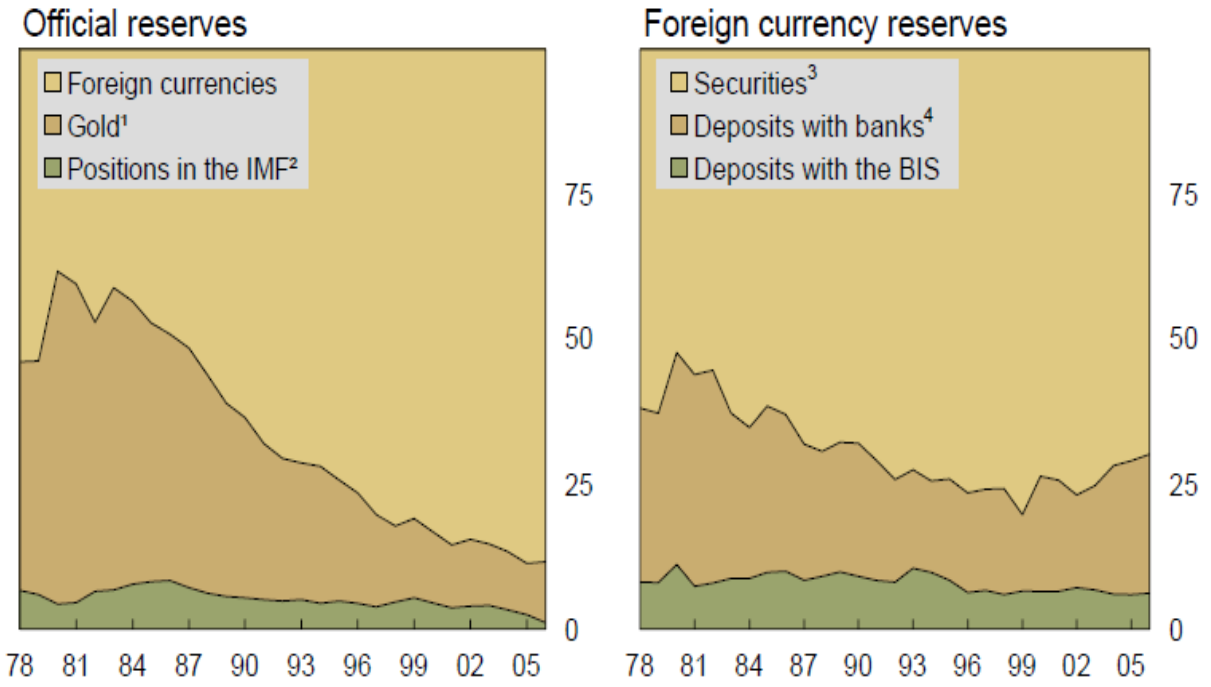
While not directly applicable to central bank portfolio allocation, Hillier et al. (2006) undertake a study of the role of gold in asset allocation decisions and conclude that gold provides significant benefits in terms of diversification. Their analysis recommends a 9.5% weigh of gold holdings in an internationally diversified portfolio. Bruno & Chincarini (2010) find that a lower percentage of gold (10% of portfolio weight to gold and oil combined) would be optimal.

The situation is markedly different for private/institutional investors and central banks, and also varies significantly from country to country. For example, the United States holds close to 70% of its foreign exchange reserves in gold, and globally gold ranks 3rd as the most used reserve currency, after the US dollar and the euro (Baur, 2016). In contrast with the United States and most European countries, the gold holdings to total foreign exchange reserves ratio in Asian countries is much lower. Overall, in September 2006 the average percentage of total reserves invested in gold by all countries was 10.7%. While in recent years, global sovereign gold reserves have decreased in volume at a rate of around 2%, the augmentation of the price of gold has compensated this reduction in terms of the market value of gold reserves Nonetheless, average global gold reserves as a percentage of total reserves (valued at market prices) have experimented a drastic reduction from 60% in 1980 to 10.7% in 2006 (Lakshmi, 2007).

federal funds (US), discount window (US), certificates of deposit, Eurodollar time deposits, repurchase agreements, treasury bills, municipal/regional/state notes, commercial paper, bankers´ acceptances, government-sponsored enterprise securities, shares in money market instruments, futures contracts, futures options and swaps. The most usual participants in the money market are commercial banks, governments, corporations, government-sponsored enterprises, money market mutual funds, futures market exchanges, brokers and dealers, and central banks (Burton, 2010; Cook, 1977).

[3] While it is perfectly feasible for central banks to hedge the currency fluctuations of their foreign exchange portfolios, the cost of covering that risk through financial derivatives is not negligible and therefore most central banks do not hedge this risk (Bernholz, 2002).

Figure 8: Evolution of world gold reserves & foreign currency reserves



¹ At market prices. ² Reserve positions in the IMF plus SDRs. ³ Estimated as the difference between foreign currency reserves and total deposits. ⁴ From 2000, including deposits by selected governments.

Source: Wooldwridge (2006), based on IMF and BIS data

Lakshmi (2007) studies the case of gold reserves in India and assesses the convenience of increasing India´s gold reserves as a percentage of its overall foreign exchange reserves. Some of the reasons that support an increase in India´s gold holdings are that gold´s price evolution tends to be negatively correlated to the US dollar exchange rate (being the US dollar the largest component of India´s foreign reserves) and that gold normally increases in value when inflation rises. Lakshmi also refers that after the Asian crisis, emerging market economies such as China, Korea, India, Malaysia, Russia or Taiwan (China) began to increase significantly their foreign exchange reserves –including gold– as a buffer against potential future crises. The following table presented in Lakshmi´s paper compares the ratio of gold holdings to total reserves in a number of countries.

Figure 9: Gold holdings as a percentage of total reserves (2007)

Country	Tonnes	% of Total Reserves
Unites States	8133.5	74.5
Germany	3423.5	61.4
France	2768.0	62.9
Italy	2451.8	66.1
Switzerland	1290.1	42.1
Japan	765.2	1.8
ECB	662.9	25.8
Netherlands	654.9	57.3
China	600.0	1.3
Spain	457.7	48.9
Taiwan	423.3	3.2
Portugal	402.5	80.3
Russia	385.5	3.0
India	357.7	4.4
All countries	27247	10.7

Source: Lakshmi (2007), based on World Gold Council

Ghosh (2016b) compiles a similar table for a larger number of countries. We present it here so that the reader can observe differences between pre-crisis (Lakshmi) and post-crisis (Ghosh) gold reserve levels in countries present in both tables.

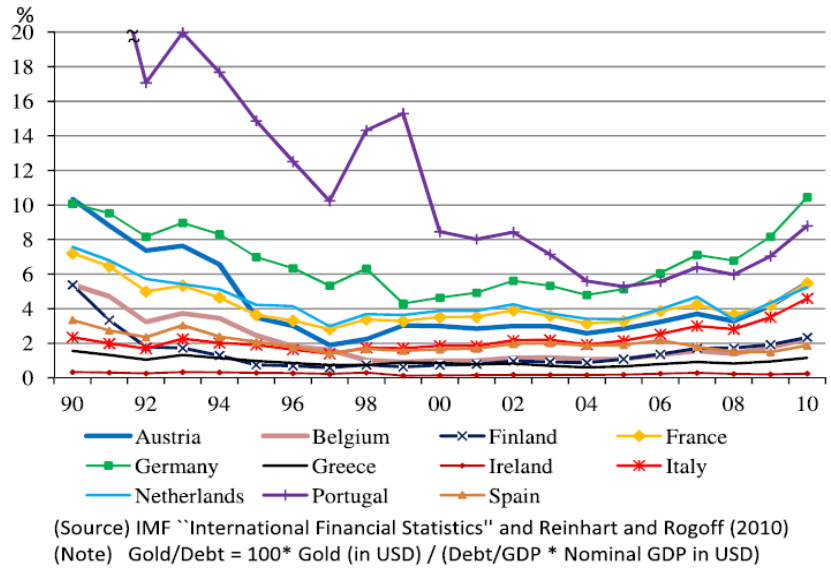
Figure 10: Gold holdings as a percentage of total reserves (2016)

Portugal	65.252	Finland	12.364	Indonesia	3.392	Mexico	0.860
Italy	59.865	Cameroon	11.443	Albania	3.354	Yemen	0.830
France	58.027	Eritrea	10.894	Mauritius	3.346	Malaysia	0.822
Germany	54.726	Ghana	10.746	Argentina	3.338	Dominican Republic	0.799
Greece	53.975	Russia	10.082	Peru	3.314	Libya	0.786
Netherlands	52.232	Mongolia	9.353	Morocco	3.270	Honduras	0.758
Austria	38.491	Ireland	8.957	Uruguay	3.087	Malta	0.735
Venezuela	33.891	Macedonia	8.838	Papua New Guinea	3.051	Oman	0.705
Belgium	29.205	Bulgaria	8.217	Lithuania	2.927	Bosnia	0.677
Lebanon	28.288	Congo, Republic	8.102	Thailand	2.737	Saudi Arabia	0.525
Spain	27.841	Sweden	7.720	Iceland	2.498	China	0.517
Switzerland	26.334	Kyrgyz Republic	7.643	Malawi	2.486	Canada	0.420
Ecuador	25.679	El Salvador	7.593	Burundi	2.151	Comoros	0.396
Cyprus	25.339	Egypt	7.333	Guatemala	2.151	Chile	0.391
Netherlands Antilles	25.266	Turkey	6.904	Japan	1.947	Tunisia	0.336
Slovakia	23.677	Slovenia	6.369	Laos	1.804	Nepal	0.313
Tajikistan	22.665	Sri Lanka	5.935	Chad	1.754	Korea	0.308
Suriname	19.234	Serbia	5.871	Paraguay	1.732	Hungary	0.291
Pakistan	17.975	Latvia	5.651	Myanmar	1.654	Norway	0.289
Kazakhstan	16.777	Australia	5.342	Qatar	1.411	Bahrain	0.278
Aruba	15.931	India	5.210	Armenia	1.157	United Arab Emirates	0.276
Cambodia	15.819	Gabon	5.128	Estonia	1.121	Singapore	0.155
Luxembourg	14.765	Ukraine	4.777	Kuwait	1.090	Fiji	0.116
South Africa	13.720	Jordan	4.604	Colombia	1.076	Hong Kong	0.027
Philippines	13.230	Central African Rep.	4.177	Brazil	1.065	Nigeria	0.002
Romania	13.187	Poland	4.130	Algeria	1.056	Costa Rica	0.002
United Kingdom	12.964	Mozambique	4.075	Trinidad and Tobago	0.955		
United States	12.482	Denmark	3.474	Czech Republic	0.938		

Source: Ghosh (2016b), based on IMF International Financial Statistics

While Lakshmi (2007) and Ghosh (2016b) present us with two synchronic pictures of sovereign gold reserves, Aizenman & Inoue (2013) include in their research an illustrative graph showing the evolution of the ratio of gold reserves to sovereign debt for 1990 until 2010 in a number of countries. A change in the trend can be observed coinciding with the global financial crisis; before 2008, an overall reduction in the percentage of reserves held as gold is observed (due to the reserve portfolio shift to assets offering higher yields), while beginning in 2008, a flight to quality move lead to a marked increase in gold reserve levels.

Figure 11: Gold reserves/sovereign debt in Euro countries 1990 - 2010

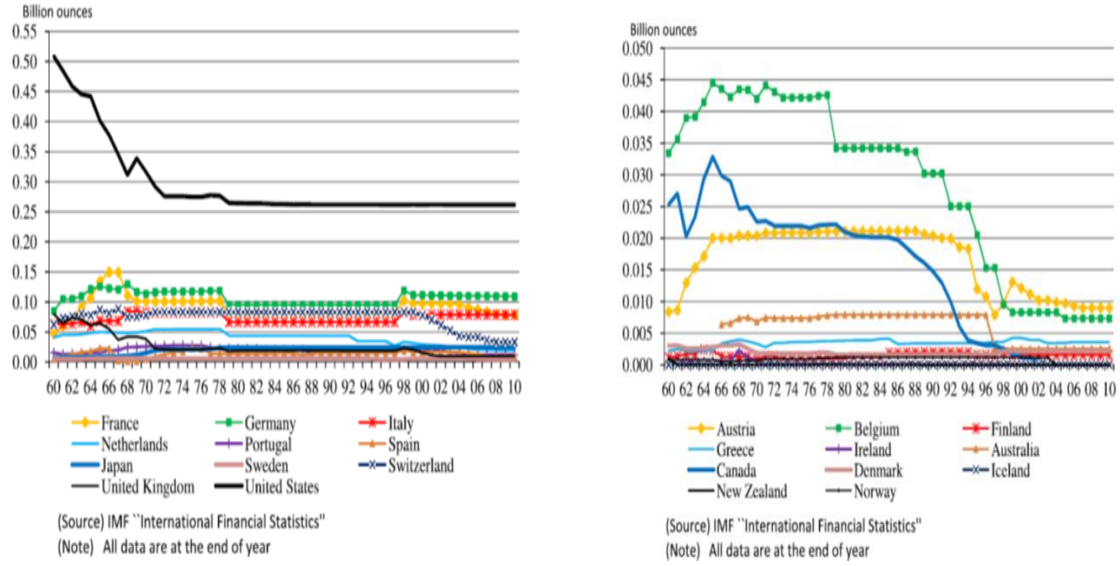


Source: Aizenman & Inoue (2013)

In addition, when central banks sell gold, they tend to do so in small quantities and there seems to be a certain synchronization among various central banks. Furthermore, they also tend to be as discrete as possible in the disclosure of their gold positions within the framework of international reserves/GDP statistics. The reason behind the latter observation appears to be that centrals banks are keen to maintain substantial gold positions but do not wish to be subject to excessive criticism when gold prices decrease.

This can be graphically observed in the research undertaken on multiple countries by Aizenman & Inoue (2013), who graph the volume of gold holdings of numerous central banks from 1979 until 2010. As indicated, it may be inferred from the illustrations below that central banks tend to buy or sell gold in discrete steps and –to a large extent– in a semi-coordinated fashion.

Figure 12: Volume of sovereign gold reserves, selected countries 1960 – 2010



Source: Aizenman & Inoue (2013)

The following table presents the same type of information for a larger sample of countries, from 1974 until 1998.

Figure 13: Volume of sovereign old reserves, selected countries. 1974 - 1998

	1974	1975	1976	1977	1978	1979	1980	1981	1982	1983	1984	1985	1986	1987	1988	1989	1990	1991	1992	1993	1994	1995	1996	1997	1998
World	36745	36674	36375	36494	36267	35694	35836	35830	35698	35640	35605	35686	35702	35612	35790	35605	35575	35545	35186	34814	34653	34503	34481	33894	33441
Institutions	4955	4953	4793	4447	3983	6243	6115	6121	6110	6087	6088	6091	6108	6190	6345	6336	6369	6370	6336	6136	6101	6240	6283	6194	3417
All Countries	31790	31721	31582	32047	32285	29451	29721	29709	29588	29553	29518	29595	29594	29423	29445	29269	29206	29175	28850	28678	28552	28263	28199	27700	30025
Canada	683	683	672	684	688	690	653	636	630	627	626	625	613	576	533	501	459	403	309	188	121	106	96	96	77
USA	8584	8544	8543	8633	8597	8230	8221	8215	8212	8192	8174	8169	8150	8161	8145	8147	8146	8146	8144	8143	8141	8140	8138	8138	8137
Japan	657	657	657	673	746	754	754	754	754	754	754	754	754	754	754	754	754	754	754	754	754	754	754	754	754
Australia	229	230	229	238	242	247	247	247	247	247	247	247	247	247	247	247	247	247	247	246	246	246	246	80	80
Switzerland	2588	2588	2590	2590	2590	2590	2590	2590	2590	2590	2590	2590	2590	2590	2590	2590	2590	2590	2590	2590	2590	2590	2590	2590	2590
Austria	649	649	649	653	655	657	657	657	657	657	657	657	658	658	658	643	634	623	620	579	570	373	334	245	300
Belgium	1312	1312	1312	1320	1325	1064	1063	1063	1063	1063	1063	1063	1063	1046	1047	940	940	940	779	779	779	639	477	477	296
Denmark	56	56	56	60	62	51	51	51	51	51	51	51	51	51	51	51	51	52	52	51	51	51	52	52	67
Finland	26	26	26	28	29	31	31	39	40	40	40	59	59	61	61	62	62	62	62	62	62	50	50	50	62
France	3139	3139	3142	3162	3172	2548	2546	2546	2546	2546	2546	2546	2546	2546	2546	2546	2546	2546	2546	2546	2546	2546	2546	2547	3184
Germany	3658	3658	3658	3679	3690	2963	2960	2960	2960	2960	2960	2960	2960	2960	2960	2960	2960	2960	2960	2960	2960	2960	2960	2960	3701
Greece	112	113	114	116	117	118	119	120	120	121	128	128	103	104	106	106	106	107	107	107	107	108	108	113	113
Ireland	14	14	14	15	14	12	11	11	11	11	11	11	11	11	11	11	11	11	11	11	11	11	11	11	14
Italy	2565	2565	2565	2579	2585	2075	2074	2074	2074	2074	2074	2074	2074	2074	2074	2074	2074	2074	2074	2074	2074	2074	2074	2074	2593
Luxembourg	14	14	14	14	14	14	14	14	14	14	13	13	13	13	13	11	11	11	11	9	9	9	9	10	10
Netherlands	1690	1690	1690	1699	1704	1368	1367	1367	1367	1367	1367	1367	1367	1367	1367	1367	1367	1367	1367	1090	1081	1081	1081	842	1052
Portugal	866	862	861	750	688	688	690	689	687	635	631	629	627	624	500	499	492	494	500	500	500	500	500	500	625
Spain	444	444	444	449	452	454	454	454	454	454	455	456	461	371	437	489	486	486	486	486	486	486	486	486	608
Sweden	180	180	180	184	187	189	189	189	189	189	189	189	189	189	189	189	189	189	189	189	189	146	146	147	147
UK	654	654	654	691	710	568	586	592	591	591	592	592	591	591	591	591	589	588	579	574	574	573	573	573	715
Argentina	124	124	124	130	133	136	136	136	136	136	136	136	136	136	136	136	132	128	136	136	136	136	136	11	11
Brazil	41	41	41	47	50	53	58	69	5	17	46	96	76	76	85	93	142	63	69	91	115	142	115	94	143
China				398	398	398	398	395	395	395	395	395	395	395	395	395	395	395	395	395	395	395	395	395	395
Egypt	76	76	76	76	77	77	76	76	76	76	76	76	76	76	76	76	76	76	76	76	76	76	76	76	76
India	216	216	216	229	260	266	267	267	267	267	272	292	325	325	325	325	333	351	353	356	367	397	398	396	357
Indonesia	2	2	2	5	7	9	74	97	97	97	97	97	97	97	97	97	97	97	96	96	96	96	96	96	96
Iran	116	116	116	118	119	121	153	188	184					135	135	135	135	135	135	148	147	151			
Kuwait	109	124	173	78	79	79	79	79	79	79	79	79	79	79	79	79	79	79	79	79	79	79	79	79	79
Lebanon	287	287	287	287	287	287	287	287	287	287	287	287	287	287	287	287	287	287	287	287	287	287	287	287	287
Libya	76	76	76	76	76	77	96	111	111	111	113	112	112	112	112	112	112	112	112						0
Malaysia	52	52	52	54	59	66	72	72	72	72	72	73	73	73	73	74	73	73	74	74	74	74	74	73	73
Pakistan	49	49	50	50	53	57	57	57	57	58	58	59	60	60	61	61	61	61	63	64	64	64	64	64	65
Peru	31	31	31	31	31	36	43	43	43	43	43	61	66	47	53	61	69	57	57	41	35	35	35	35	34
Philippines	33	33	33	33	47	53	60	52	58	9	24	46	70	86	88	76	90	105	87	100	90	111	145	155	169
Romania	76	81	86	95	104	110	115	112	111	113	116	119	101	42	45	68	69	70	72	74	82	84	88	94	100
Russia	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		0	0	317	262	293	420	507	458
Saudi Arabia	96	96	96	96	141	142	142	142	143	143	143	143	143	143	143	143	143	143	143	143	143	143	143	143	143
South Africa	568	552	394	302	305	312	378	289	235	242	229	151	150	181	108	96	127	201	207	148	131	132	118	124	124
Taiwan	71	72	69	76	76	75	98	101	117	128	139	156	173	238	419	421	421	421	421	422	422	422	422	422	422
Thailand	73	73	73	75	75	76	77	77	77	77	77	77	77	77	77	77	77	77	77	77	77	77	77	77	77
Turkey	111	111	111	113	114	117	117	117	117	117	118	120	119	119	119	118	127	129	126	125	119	117	117	117	117
Uruguay	110	110	110	111	113	103	106	106	89	81	81	81	81	81	81	81	74	70	63	53	53	53	54	55	55
Venezuela	348	348	348	352	354	356	356	356	356	356	356	356	356	356	356	356	356	356	356	356	356	356	356	356	304

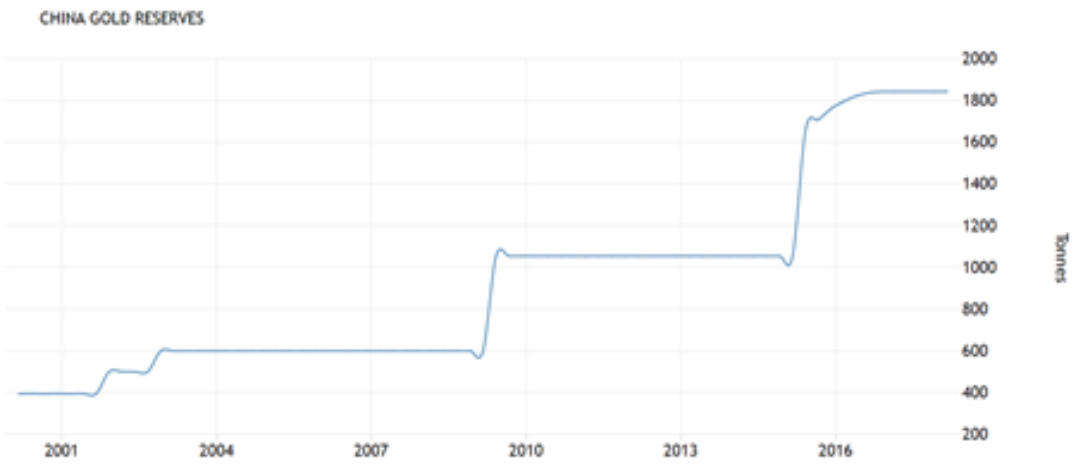
Source: IMF International Financial Statistics

As we have just seen, central banks are not too keen on being excessively transparent about the valuation of their gold holdings, in order to try and disguise large gold reserves. Furthermore, latest advice by researchers and practitioners recommends holding around 10% of foreign reserves in gold and discourages overdimensioned overall foreign exchange portfolios (not higher than the debt obligations maturing for a particular country within 1 year). With these two considerations in mind, Li Jing (2007) studies the dynamics of gold reserves after demonetization and analyses the motives why central banks buy or sell their gold reserves. In his paper, the author presents an interesting and out-of-the-box option that would allow central bankers to reduce the overall size of foreign exchange reserves in general and of gold holdings in particular: the policy of "gold held by people" (he studies the case of China). Li Jing argues that encouraging citizens to hold gold privately would also be an effective tool against the continued loss of value experienced by the US dollar (largest component of China´s foreign reserves), and a powerful instrument to maintain financial stability and avoid financial crises.

In the following paragraphs, we will conduct a review of the existing academic literature assessing how individual countries and groups of countries manage their foreign exchange reserves and their gold holdings.

China has been one of the countries generating more research interest in later years when it comes to sovereign gold reserves. Guichang (2005) observed that from 2002 to 2005, the depreciation of the US dollar had substantially affected the market value of China´s international reserves –as the country held a very significant portion of its foreign reserves in that currency–. The author noted that China´s gold reserves were insufficient and recommended modifying the portfolio structure of Chinese foreign reserves increasing the weight of gold in it, which in turn would help to mitigate the problem of the devaluation of the renminbi (yuan).

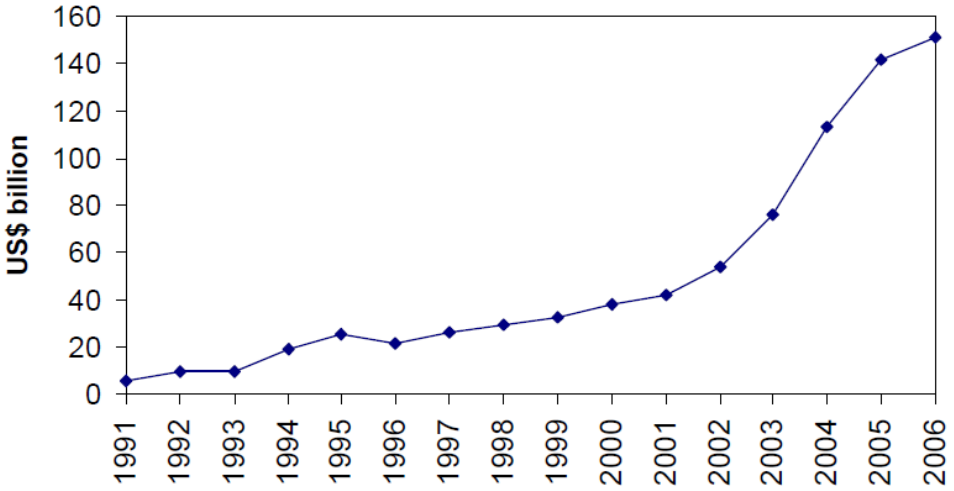
Figure 14: China´s gold reserves



Source: World Gold Council (2015b)

Lakshmi (2007) examines in depth **India**´s overall foreign exchange reserves and gold holdings in the 90´s and the from 2000 to 2006. In that period, the author observes that total reserves increased from 5.8 billion US dollars at the end of March 1991 to more than 151 billion in March 2006 (see table below).

Figure 15: India´s foreign exchange reserves



Source: Lakshmi (2007), based on Reserve Bank of India

Lakshmi explains that before 1991, India was to a large extent a closed economy, suffering since the beginning of the 80´s from a chronic current account deficit. The situation became so severe that, in 1991, the country needed to sell 20 tonnes of gold to raise emergency funds and to use 46 tonnes as collateral to get a loan from the Bank of Japan. The financial strains generated by India´s restrictive trade policies prompted a move towards trade liberalization and allowed foreign exchange reserves to grow exponentially –Reddy (2006) also identifies surpluses in the current and/or capital accounts as the main source of foreign reserves augmentation in other countries–. India´s now much larger foreign reserves are composed of gold, Special Drawing Rights (SDRs) and foreign currency assets, which can be held in sovereign (or sovereign guaranteed) fixed income instruments with maturities under 10 years, or deposits with other central banks, the Bank for International Settlements (BIS) or foreign commercial banks. Lakshmi observes that most of the increment in overall foreign exchange reserves experienced in India was directed to foreign currency assets –in the form of bank deposits– rather than to gold or SDRs (see tables below) and justifies that choice arguing that for an emerging economy like India, the opportunity costs associated with gold do not serve well the economy, as reserves should be generating income (see Summers (2007)). In addition, in the event of a crisis, Lakshmi argues that gold holdings are not so easy to sell quickly in large amounts as other types of foreign exchange reserves, due to the size of their markets. This contrasts with the various examples presented of countries successfully selling or using gold as collateral in times of severe crisis.

Figure 16: India´s foreign exchange reserves composition

US $ million

As at the end of March	Gold 2	SDRs 3	Foreign Currency Assets 4	Reserve Position in IMF 5	Total 2+3+4+5
2000	2974	4	35058	658	38694
2001	2725	2	39554	616	42897
2002	3047	10	51049	610	54716
2003	3534	4	71890	672	76100
2004	4198	2	107448	1311	112959
2005	4500	5	135571	1438	141514
2006	5755	3	145108	756	151622

Source: Reserve Bank of India (as cited in Lakshmi (2007))

Figure 17: India´s gold reserves

Country	Tonnes	% of Total Reserves
March 2000	357.8	9.4
March 2001	357.8	7.4
March 2002	357.8	7.2
February 2003	357.8	5.7
March 2004	357.8	4.5
March 2005	357.7	3.8
March 2006	357.7	4.6
September 2006	357.7	4.4

Source: World Gold Council (as cited in Lakshmi (2007))

Chaoyi (2009), following the official announcement by the Chinese administration that the sovereign gold reserves of the country had been raised to 1054 tonnes, undertook a comparative study of the policies on sovereign gold reserves in China and Japan. He observed a contrast between the strategies used by the two countries –since China had increased holdings but Japan had not made any substantial purchases of gold–. Chaoyi tries to contextualize these diverging decisions and, with that objective in mind, he compares the opportunity costs and the utility of stocking sovereign gold for the two nations. The author concludes that Japan´s policy on gold reserves is not suitable for China (and vice versa) and that the latter should hold a higher amount of gold reserves than its peer, Japan.

1.3. Gold reserves and development: concepts, metrics and relation with other factors

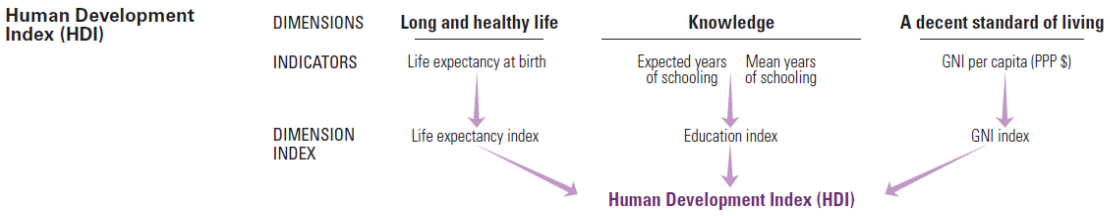
Since one of the primary objectives of this work is to discover whether the financial performance obtained by a country in the management of its sovereign gold reserves is related to its level of development, it is of paramount importance to understand the concept(s) of

development, what the different manners of measuring it are and what the relations of development with other variables are.

Until the 80´s, mainstream economists focused on income (GDP per capita, mostly) as the main indicator of development and well-being (Barder, 2012). One of the authors that has contributed more significantly to change the modern understanding of development is Nobel prize-winning economist Amartya Sen. In the 80´s, Sen introduced a "capabilities approach" to the notion of development, which fostered the creation of the UN Human Development Index and the Global Multidimensional Poverty Index. At the end of the 90´s, Sen´s view of development evolved into a more "freedoms" oriented focus (Barder, 2012).

As indicated, the Human Development Index (HDI) took after Sen´s "capabilities approach" and therefore uses this criterion as the chief dimension to measure the development of a country, putting economic growth on a second level. As can observed in the graph below, the Index combines indicators that assess dimensions related to health, education and wealth. It must be noted that it does not capture other aspects that may be considered relevant to measure human development more holistically, for example inequality, security, environmental factors, etc. Despite its limitations, the Index offers valuable information to compare the optimality of policy choices among countries with similar GNI per capita levels (United Nations Development Programme, 2018).

Figure 18: Human Development Index



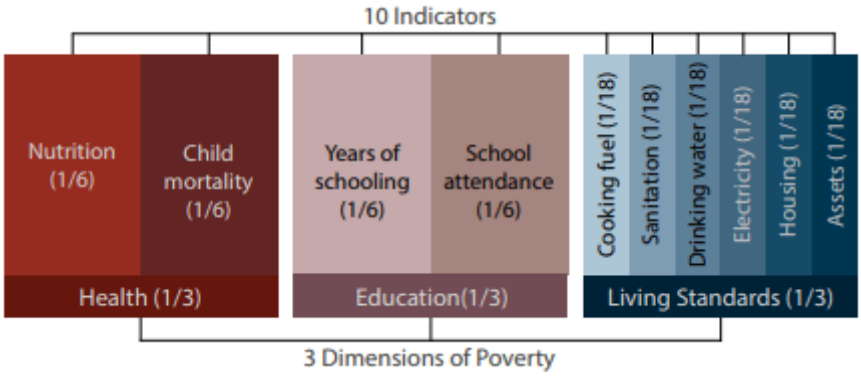
Source: United Nations Development Programme, 2018

A number of authors have studied the relation between the Human Development Index and GDP per capita as development metrics. Islam (1995) found that the sensitivity of the former to variability in the latter is higher when countries with a low Human Development Index, while countries with mid of the table scores in the Human Development Index show an inverted "U-shape" relation between this indicator and GDP per capita.

Although less widespread than the Human Development Index, the Global Multidimensional Poverty Index has reached considerable acceptance. This index, developed jointly by the Oxford Poverty & Human Development Initiative and the United Nations Development Programme, focuses exclusively on developing countries (no metrics are calculated for developed nations) and attempts to capture a variety of factors that affect the level of

development of a country, such as nutrition, child mortality, education, housing, etc. The complete list of indicators (10) encompasses 3 dimensions of poverty, as can be seen in the graph below (Oxford Poverty & Human Development Initiative, 2018).

Figure 19: Global Multidimensional Poverty Index



Source: Oxford Poverty & Human Development Initiative, 2018

The multifactor nature of this index makes it more efficient than income only metrics at capturing the complexity of poverty and development and helps optimize policy decisions. In this line, Dreze & Sen (2013) observed that there has been little or no correlation between economic growth and the enhancement of the living conditions of the underprivileged members of society in India over the past three decades. The author contrast India´s evolution with the situation in countries like Japan, South Korea and China over the same time period. They conclude that the absence of significant social improvement may hinder future economic growth.

Currently, a considerable number of other development indicators exist. Among the many efforts and institutions that undertake work in this area, some of the most relevant are: The OECD Better Life Initiative, EU 2020 - EU Communication on “GDP and beyond”, Rio+20, UN Resolution “Happiness: Towards a Holistic approach to development”, the Gross National Happiness Index (Centre for Bhutan Studies & GNH, 2018) or the Sustainable Development Goals and Targets – UN 2030 Agenda (Stiglitz, 2017).

In summary, although we currently have at our disposal more comprehensive tools to measure development and attention must be paid to the limitations of this income only metric, some prominent authors believe that GDP are still very relevant: "Without measures of economic aggregates like GDP, policymakers would be adrift in a sea of unorganized data. The GDP and related data are like beacons that help policymakers steer the economy toward the key economic objectives" (Samuelson, 1995).

Turning now our attention to the relations and statistical associations between development indicators and other variables, it should be first noted that correlation does not imply causation, as we find numerous examples in academic literature –even among well-known authors– in which this distinction is not as clear as desirable. Acemoglu et al. (2008) focus on a violation

of this predicament to rebate one of the cornerstone tenets of modernization theory: the causal effect of income on democracy. The authors do not contest the existence of a statistical correlation between the variables, but they question the causal nature of it and the direction of the potential causality. In their study, they use two relatively simple but powerful techniques to investigate the robustness of the results obtained by major democracy authors such as Dahl, Huntington, Rusechemeyer or Stephens (Acemoglu et al., 2008, p. 809). The firs strategy employed by Acemoglu et al. was to research the within country variation over time of both the dependent and the explanatory variables to understand whether countries just tend to be more democratic if they are richer or whether they tend to become more democratic as they become wealthier. In other words, they incorporate a diachronic dimension to the previous analyses performed through the inclusion of country-fixed effects. Interestingly, the authors find that once this diachronic perspective is incorporated, no statistical relation between changes in GDP per capita and democracy indicators can be observed at the above 100-year frequencies. The second strategy used in their study employs instrumental variables, which are believed to affect income but should not have a direct impact on democracy. The study covers three differentiated time periods: 1960 - 1995; 1875 - 2000 and 1500 - 2000.

Burnside & Dollar (2000) study the relation between foreign aid, domestic policies and growth for a panel of 56 countries from 1970 to 1993. Although the variables analysed are not of particular relevance to our work –especially because growth is the dependent and not one of the explanatory variables–, elements of the methodology used by these authors present certain relevance for our study. One of these elements is their use of 4-year periods to calculate variations in the variables, which contrasts with the method used by Acemoglu et al. (2008) –whole time period under study– . Another relevant element is the use of real GDP in constant 1985 prices, which in this case aligns with the methodology used by Acemoglu et al. (2008) –they used GDP per capita in constant 1990 dollar for the longer data set (1985 - 2000)–.

In a similar line to Burnside & Dollar, Lacalle et al. (2015) analyse the effects of foreign aid and microfinance on growth. The study pays considerable attention to transmission mechanisms (how might foreign aid and/or microfinance affect growth). This focus seems relevant for our research work, as the relation between the financial performance obtained in the management of the sovereign gold reserves of a country and its level of development (or other characteristics) is not obvious. It is also worth noting that Lacalle et al. (2015) take real GDP at purchasing power parity –in line with the methodology used to analyse the shortest data set in Acemoglu et al. (2008)– and use its logarithmic value. Finally, the authors include a comprehensive number of control variables that influence economic growth, and other political indicators.

Another set of variables whose relation has been extensively studied is the pair formed by governance and development (economic income, growth, etc.). Daniel Kaufmann is one of the most prominent authors studying this relation. Studies assessing the relation between governance and development are relevant to our work for three main reasons:

1. From a methodological point of view: as mentioned earlier in this section, no studies exist to date comparing the financial performance of sovereign gold reserves in developing and developed countries. The resulting absence of a tested methodology to

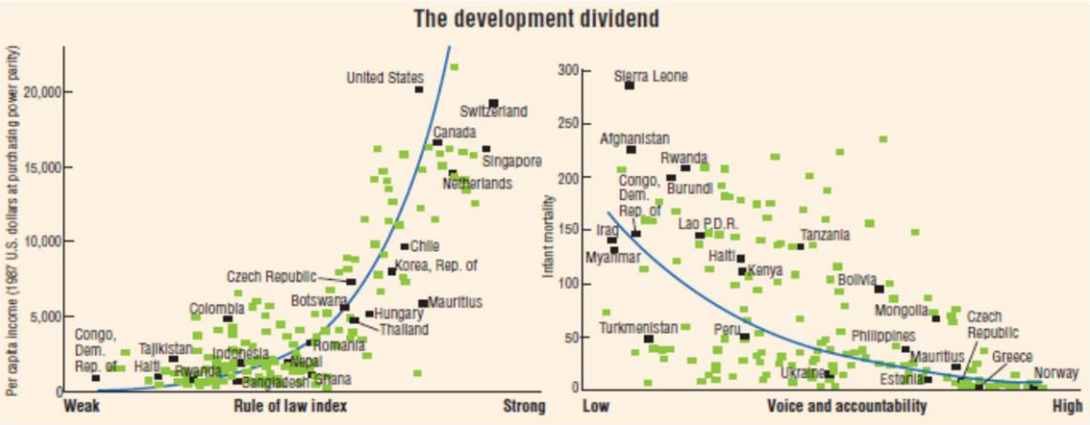
undertake this analysis makes cross-country studies –such as several Kaufmann´s papers– analysing the relation between the level of development (measured using income or growth metrics) and several variables very useful to build a sound methodology for our study. Furthermore, Kaufman et al. (1999) have developed extensive work on indicators to measure governance (they have identified more than one hundred governance indicators), which may be useful to undertake a selection of the governance indicators found to potentially have more influence on gold reserves management. On this point, it is worth noting a word of caution by the authors: that aggregate governance indicators are more precise than any individual indicator.

2. One of the components of the definition of development (Kaufmann et al., 2000) is the "capacity of governments to manage resources efficiently and formulate, implement and enforce sound policies and regulations". Building on one of the cornerstone tenets of modernization theory, the association between democracy and development / income (Dervis, 2006; Hyden, 2007), we speculate that the variables measuring components of development related to democratic quality and governance may have a certain degree of influence on the efficiency, effectiveness and optimality of sovereign gold reserves management by central banks or other competent authorities, which should affect the financial returns obtained from those reserves. This will be tested in the empirical part of the thesis.

3. Finally, it is widely accepted that corruption takes a toll on national treasuries, as some of the financial resources that would otherwise flow to the government coffers through taxation are diverted through bad governance and/or corrupt practices. This is clearly exemplified by Kaufmann et al. (2000) with the case of Georgia, where 77% of companies indicated that they would accept to be taxed an additional 11% should corruption in the country did not exist. We would therefore expect that countries high levels of corruption and/or low governance scores had a lower ratio of foreign reserves (and consequently, also of gold) to GDP than peers with inferior corruption rates (or better governance scores). Research on this specific topic has been undertaken by Aizenman & Marion (2003), and will be discussed in the Theoretical Framework sub-chapter of this thesis.

Kaufmann et al. (2000, p. 10) define governance as "the traditions and institutions that determine how authority is exercised in a particular country" and describes the existence of three dimensions in this definition: selection, monitoring, accountability and replacement of governments; government executive capacity; and respect of the rule of law. The authors assert that good governance presents a strong correlation with development (also that poor governance goes hand in hand with weak economic performance). The statistical relation described can be easily observed in the following graphs.

Figure 20: Correlation between governance and development



Source: Kaufmann (2000)

While the statistical relation seems clear from the figure above, the chart displays the relation between the dependent and the independent variables for the period 1997-1998. In line with the observations formulated by Acemoglu et al. (2008) on the necessity of a diachronic analysis of the statistical relation, the graphs do not depict the impact of improved governance on economic development over the years. However, Kaufmann et al. (2000) do not fail to point out that the obviousness of the correlation might simply reflect that wealthier countries had the means to invest in good governance –while poor peers had not–, if it were not for the fact that a large causal effect was found (corruption curbing leading to improved levels of economic development, and vice versa).

1.4. Conclusions

Before embarking on the analysis of academic literature related specifically to the research objectives of this thesis –gold reserves performance determinants and factors affecting the level of gold reserves to total reserves–, this Background Literature Reviews explores a number of areas which may be of interest to central bankers involved in sovereign gold reserves management. Aspects such as factors affecting gold prices, gold timing, role of gold in monetary policy, evolution of total reserves and gold reserves levels or relevance of governance and development in reserves management are covered.

In terms of gold economics and pricing, numerous studies exist on the factors affecting gold prices. The main question to address on this front –given the assumption that gold is a type of commodity– is the response of gold prices to supply and demand. On this point, it is important to note that yearly supply of new gold is very small (from 1% to 2% of total gold in existence) and that this supply is highly inelastic in the short term, as exploiting new gold mines takes

time. This consideration, together with the fact that gold coming into the market from other sources (not newly mined gold but scrap gold and gold sold by central banks, etc.) is also very limited and only represents between 20% and 40% of annual world supply, makes gold prices not correlated with normal variations in gold supply. Exceptions seem to have been identified by Feldstein (1980a) and Salant & Henderson (1978) in the case of large gold disbursements by central banks. The Washington Agreement on Gold, prohibiting substantial gold sales by central banks, appears to have limited this possibility.

When addressing foreign reserves management, the first question to be decided by central bankers and governments is the optimal level on international reserves to be held. Currently, the IMF suggests holding an amount of foreign reserves that would cover the external debt maturing within 1 year. A lower level would increase the exposure of a country to financial crises, while a higher threshold would negatively affect the country´s GDP, as excess reserve funds could be invested in infrastructure or other productive investments (Summers, 2007). A second matter to be decided is the composition of the foreign reserves portfolio. Here, a trend has been identified since the 1970´s to shift reserve funds higher up in the risk/return ladder (Reddy, 2006). Gold has not been an exception. While during the gold standard period, the holding of large reserves of gold was necessary to guarantee the convertibility of banknotes into gold at a fixed rate, the abolition of the convertibility obligation by President Nixon in 1971 –although prompted many countries to significantly reduce gold holdings– did not lead central banks to abandon gold as a reserve asset. Currently, countries hold an average of 10.7% of their foreign reserves in gold (although percentages vary significantly from country to country, with nations such as the United States showing ratios of over 70% and others, particularly developing countries, exhibiting percentages of less than 5%) (Lakshmi, 2007). The main reason why central bankers and governments continue to hold gold in their foreign reserves portfolios are its contribution to financial stability, its liquidity and international acceptance when emergency funds are needed to confront shocks and its role as currency exchange rate support. Superior financial return considerations are usually not part of the justifications given. However, close attention should be paid to the financial transactions that may contribute to return generation for large governmental gold holders: gold lending, gold swaps, writing of gold options; to the exchange rate risk level of gold compared to other foreign currency denominated reserve assets; and to the credit and political risk of those other assets (Bernholz, 2002).

There is a number of aspects which may be of interest to central bankers involved specifically in sovereign gold reserves management to optimize the financial returns derived from gold holdings:

As with other investments, timing of purchases and sales is an essential aspect in the management of sovereign gold. One of the timing dimensions that has been moderately well analysed in academic literature is seasonality of gold prices. Authors like Baur (2013), Qi & Wang (2013) or Naylor et al. (2011) observe that gold price performance tends to be higher in the months of September and November, while others like Ball et al. (1982) find evidence of intra-week seasonality and point to superior gold price performance on Wednesdays. While intra-day price patterns have not been covered per se in this literature review, it will be useful for central bankers transacting gold to understand the price discovery contribution of the main cash and future gold markets. The London cash market and COMEX have been found to be the

two main contributors to price formation, with a very fluid price information transmission between both. Xu & Fung (2005) have analysed the price information flows between Tokyo TOCOM and New York COMEX, finding that COMEX influence over TOCOM on gold prices is six times greater than in the opposite direction.

Another factor to be considered by central bankers dealing with gold is the effect of the US dollar exchange rate on the price of the metal. On this point, a quasi-consensus exists on the negative correlation between the exchange rate of the dollar and gold prices. The same occurs with oil and gold prices, for which the existence of a correlation has been amply documented (although in this case it is a positive correlation). In addition, macroeconomic indicators such as unemployment rates, GDP, CPI have been found to affect gold prices and volatility. Central bankers would also do well in following closely the evolution of gold futures and ETFs, as they often provide indications on how prices of physical gold may evolve (Ivanov, 2013; Pavabutr & Chaihetphon, 2010). Finally, behavioural finance affects gold trading in a similar manner to the trading of other financial instruments. In this line of research, Aggarwal & Lucey (2006) find that psychological barriers exist in gold prices, with round numbers acting as floors and ceilings. In addition, these authors observe that the conditional mean, the variance and the volatility of gold prices are significantly affected when gold is trading near psychological barriers.

Being one of the main objectives of this thesis to undertake a comparative study of the financial performance obtained by gold reserves managers in developed and developing countries and of their gold reserves management strategies, a review of academic literature on sovereign gold reserves and total reserves has been conducted. Surprisingly, no comparative research comparing gold reserves financial performance between countries or groups of countries has been found. A study of these characteristics would be very useful for sovereign gold reserves managers, as it would provide them with benchmarking instruments against which to assess their financial performance. This part of the Background Literature Review serves as a building block for the review of the literature that will be conducted in the Theoretical Framework sub-chapter, which will focus on the determinants of total reserves, gold reserves and gold reserves financial performance.

Finally, within the numerous dimensions of development, the interconnection between governance and development (Kaufmann et al., 2000) appears to be of particular relevance for this research project.

2. Theoretical framework

This Theoretical Framework sub-chapter builds on the contents presented in the Background Literature Review to expand our understanding of foreign reserves and gold reserves by focusing specifically on the factors which determine or bear a statistical association with total sovereign reserves, sovereign gold reserves and gold reserves financial performance.

The chapter will be structured in three sections: total reserves determinants, gold reserves determinants and sovereign gold reserves financial performance determinants. We understand that sovereign gold reserves management and financial performance is to some extent influenced by these three factors.

Relevant connections between different studies, and similitudes and differences between various authors will be identified and commented, when deemed appropriate.

2.1. Total reserves determinants

Although the determination of which factors affect the size of overall foreign exchange reserve holdings is not within the scope of this thesis, the fact that several of the determinants affecting this variable also act as explanatory variables in the composition of foreign reserves portfolios and therefore have an impact on the ratio of gold held as part of a country´s overall reserves makes covering briefly the literature on the topic pertinent.

Traditionally, five categories of determinants have been considered to drive the demand for reserves: economic size, current account vulnerability, capital account vulnerability, exchange rate flexibility and opportunity cost (Gosselin & Parent, 2005). This classification is based on the research undertaken by Heller & Khan (1978), Edwards (1985), Lizondo & Mathieson (1987), Landell-Mills (1989), Lane & Burke (2001) and Edison (2003).

Edison (Edison, 2003) undertakes a study on the long-term determinants of international reserves in emerging market countries. The following table summarizes the findings.

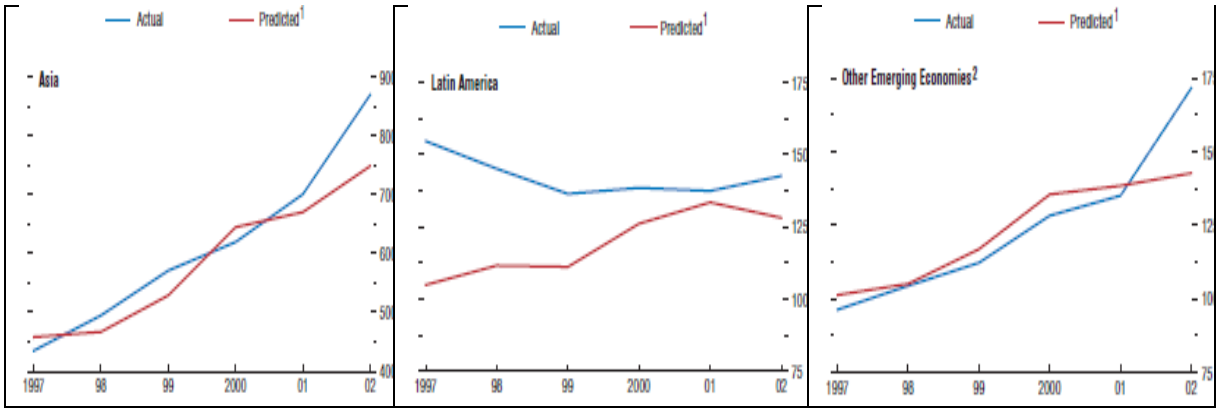
Figure 21: International reserves demand – Edison (2003)

Author	Year	Sample	Variable	Factor	Dependent / Independent / Control	Results
Edison	2003	122 emerging market countries; yearly 1980-1996	International reserves demand	Reserves	Dependent	
			GDP	Macroecon	Independent	+
			GDP per capita	Macroecon	Independent	+

			Share of imports in output	Trade	Independent	+
			Share of exports in output	Trade	Independent	+
			Volatility of export receipts	Trade	Independent	+
			Ratio of capital flows to GDP	Financial	Independent	+
			Short term external debt	Macroecon	Independent	+
			Foreigners' equity position	Financial	Independent	+
			Exchange rate volatility	Exchange	Independent	-
			Foreign - domestic interest rate differential	Financial	Independent	-

The forecasting capabilities of this model, which studies the period 1980 – 1996 are tested later by the author for the period 1997 – 2002. Results, which can be observed in the graphs below, differ considerable depending on the geographical region, but overall seem to validate the predictive capabilities of the model.

Figure 22: Evolution of reserves - actual vs. predicted



Source: Edison (2003)

In the graphs presented above, the actual values of the variable "demand for international reserves" are superior to those forecasted by the model. In the case of Asia, the rise in reserve levels seems not to align with earlier findings by Lizondo & Mathieson (1987), who observed that the Latin America debt crisis of the early 1980s diminished the demand for reserves. The explanation for this diverging pattern may in the 80s and in 1997 may be partially explained by later literature, i.e. the "flight to quality" views of Pihlman & Hoorn (2010) or Karunagaran (2013). For these authors, the need for reserves does not decrease in times of crisis, but its composition –the portfolio structure– needs to be adjusted to a new risk and liquidity context.

Aizenman & Marion (Aizenman & Marion, 2003) undertake a study on the determinants of foreign reserves in developing countries which shares a number of explaining factors with Edison´s work. However, the research undertaken by Aizenman & Marion presents a relevant novelty: it includes two

governance metrics: political corruption and political instability as explanatory variables affecting the level of foreign reserves. These variables show a negative and significant correlation with reserve levels. Aizenman & Marion explain this phenomenon by indicating that the potential for regime change in a politically unstable country disincentivizes government to hold large reserves, to avoid potential for future looting. Corruption creates a "tax" on the system that leaves less resources available to direct to foreign exchange reserves.

Figure 23: Determinants of reserves minus gold - Aizenman & Marion (2003)

Author	Year	Sample	Variable	Factor	Dependent / Independent / Control	Results
Aizenman & Marion	2003	137 developing countries; yearly 1980 - 1996	Reserves minus gold (deflated USD - log)	Reserves	Dependent	
			Population (log)	Macroecon	Independent	+
			Current GDP per capita (log)	Macroecon	Independent	+
			Real export receipts volatility (log)	Trade	Independent	+
			Imports of goods and services/GDP (log)	Trade	Independent	+
			Exchange rate volatility (log)	Exchange	Independent	-
			Index of political corruption (0-10)	Governance	Independent	-
			Probability of constitutional government change	Governance	Independent	-

Cheung & Ito (2009) undertake a study in which the authors analyse empirically the international reserves of 100 economies for the period comprised between 1975 and 2005. Cheung & Ito observe a significant growth in global international reserves and attempt to find out the drivers of demand for international reserves. They point to the influence of macroeconomic, financial and institutional variables on the demand for international reserves. While Edison (2003) and Aizenman & Marion (2003) establish the existence of a positive sign statistical association between foreign reserves and development levels (measured in terms of GDP per capita), Cheung & Ito (2009) go a step further and discover something of particular relevance for the research undertaken in this thesis: the fact that international reserves drivers may be different in developing and developed countries, and that developing countries could reduce their levels of international reserves if they were considered developed nations. The authors divide the study in 3 subperiods separated by the 1982 Mexican debt crisis, the 1994 Tequila crisis and the 1997 Asian financial crisis, and find that factors generating demand for international reserves also differ substantially from one subperiod to the others. Cheung & Ito conclude that in view of the findings, building a single theory which explains the demand drivers of international reserves is not feasible.

2.2. Gold reserves determinants

This section complements the previous Background Literature Review grouping together all relevant studies on the determinants of sovereign gold reserves. The section will focus on the statistical association between the ratio of sovereign gold reserve levels to overall foreign reserves (or assimilated dependent variables) and explanatory variables –that is, the share of gold in overall country reserves– rather than on the determinants of the volume of gold reserves in absolute terms. For clarity purposes, the most comprehensive studies (those that include several countries and gold reserves determinants) are presented in a concise table format. Each table will specify the author of the study, the publication year, the type of model used for the analysis, sample characteristics, variables studied, the factor (variable group), the variable type (dependent, independent or control variable) and the results.

Although Wooldridge (2006) does not undertake an analytical study of the determinants of the share of gold reserves in the overall portfolio of foreign exchange reserves, he presents a summarizing and elucidating view of the evolution experienced by foreign reserves in terms of their instrument composition. The author indicates that while historically the larger share of foreign reserves was held in gold –around 60% in 1980–, the end of the XXth century saw a marked decline in this percentage, which reached a mere 9% in 2005. A large part of the remaining portfolios of foreign reserves were in that year invested in interest-generating deposits and securities. Woolridge estimates that, in 2006, gold holdings in sovereign reserves worldwide amounted to 0.5 trillion USD, while other reserve instruments denominated in foreign currencies totalled 4.3 trillion USD. This decline in gold holdings happened both in terms of value and volume, particularly the second, as the reduction in the share of the value of gold held to the value of total reserves was to some extent mitigated by the increase in share prices that began in the year 2000.

For Wooldridge, the main reason behind this change in reserve management strategies is the search for more attractive risk-adjusted returns, which in turn may be justified by the perception of gold –after the price hike that it experienced from 1975 to 1980 and the loss of more than 50% of its value from 1980 to 1982– as a risky asset. A secondary reason was the quick accumulation of reserves by developing countries, which would make the placing of a large part of those new reserves in gold difficult.

Pihlman & Hoorn (2010) study the contrast between pre-crisis reserves management and the management of gold reserves during the global financial crisis. Beginning at the turn of the century, the authors observe a progressive shift from an almost exclusive focus on liquidity when holding reserves to more attention dedicated to the returns generated by those reserves. Consequently, during this pre-crisis period, considerable amounts of reserve funds were invested in securitised bonds, higher yielding agency paper, sovereign wealth funds and other return generating financial instruments. The financial crisis caused a flight to quality of reserve assets, particularly to highly rated government bonds and to gold. However, the procyclical purchasing of gold in a crisis context may not be the best strategy in terms of returns obtained, and a countercyclical purchase/selling of gold should be envisaged (Pihlman & Hoorn, 2010).

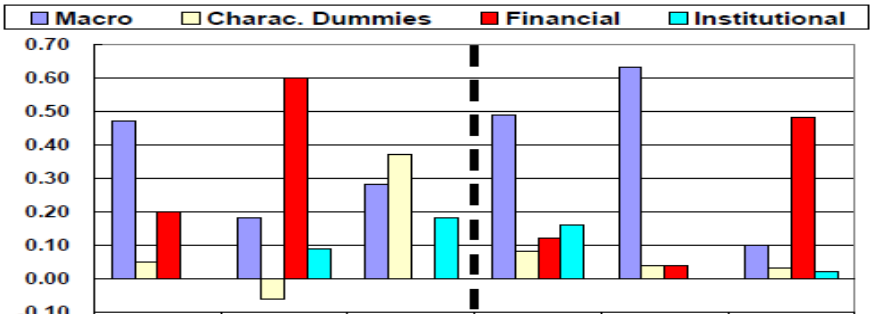
In line with Pihlman & Hoorn flight to quality views on central banks reserve management approach after the global financial crisis, Karunagaran (2013) focuses on a major gold purchase undertaken by the Reserve Bank of India in the immediate aftermath of the financial crisis (2009). From the case of India, the author covers the rationale for central banks purchasing gold in economic crisis contexts.

When addressing the relation between gold prices and gold demand by central banks (which in turns affects the ratio of gold reserves to total reserves), research opinions vary. While Aizenman & Inoue (2013) find that the vast majority of countries holding sovereign gold exhibit a high degree of independence between their gold reserves levels and the market price of gold, for Bahmani-Oskooee (1987) gold demand levels by central banks vary depending on gold prices. In the latter paper, a simultaneous equation model for the demand and supply of reserves was used to conclude that a higher gold market price exerts a negative influence on least developed countries demand for reserves. The author points out that the results obtained confirm previous results obtained for developed countries.

Aizenman & Inoue (2013) also observe that large gold holdings tend to occur in countries which are or have been "global powers", in large economies or in nations that are suppliers of currencies of international trade (such as the US).

Luafeng & Qiushi (2010) study the levels of gold reserves in relation to the size of an economy and find that they are lower in developing countries than in developed ones. The authors attribute the lower gold holdings in these countries to the failure of financial reforms, the low levels of financial development, the immaturity of the national gold markets, the imperfect international reserve system and the inadequate assessment of risk.

Figure 24: Explanatory power of factors behind international reserves demand



	Developed Economies			Developing Economies		
	1975-81	1983-93	1999-2005	1975-81	1983-93	1999-2005
Macro	0.47	0.18	0.28	0.49	0.63	0.10
Charac. Dummies	0.05	-0.06	0.37	0.08	0.04	0.03
Financial	0.20	0.60	0.00	0.12	0.04	0.48
Institutional		0.09	0.18	0.16	0.00	0.02

Source: Cheung & Ito (2009)

A study by Oktay et al. (2016) presents the novelty of bridging two academic literature orientations and analysing in a single piece of research whether determinants of total reserves,

non-gold reserves and gold reserves affect them in the same manner. Results statistical associations obtained for the 3 dependent variables tend to be of the same sign for total reserves and non-gold reserves and of opposite sign for gold reserves.

Figure 25: Gold reserves determinants - Oktay et al (2016)

Author	Year	Model	Sample	Variable	Factor	Dependent / Independent / Control	Results
Oktay et al.	2016	Fixed effects Dynamic Panel Data	175 observations: G7 countries; yearly 1990 - 2014	Total reserves	Reserves	Dependent 1	
				Total reserves without gold	Reserves	Dependent 2	
				Gold reserves	Reserves	Dependent 3	
				Imports of goods and services	Trade	Independent	
				Financial openness index	Financial	Independent	
				Private capital flows	Financial	Independent	
				Net FDI liabilities	Financial	Independent	-
				GDP current USD	Macroecon	Independent	+
				Population	Macroecon	Independent	-
				Exports of goods and services	Trade	Independent	+
				Current account balance	Trade	Independent	-

Ghosh publishes in 2016 two papers investigating the drivers of gold demand in the foreign exchange reserve portfolio of the Bank of India (Ghosh, 2016a) and of numerous other central banks (Ghosh, 2016b). In the former, Ghosh tests whether the Reserve Bank of India responds to the same rationale used by private hedge fund managers and individual investors when increasing/reducing the share of gold in their portfolios. The author studies whether the underlying qualities of gold, such as inflation hedge, dollar exchange rate hedge or flight to quality affect the Reserve Bank of India´s decisions on the adequate level of gold holdings. The author includes other domestic macroeconomic and financial explanatory variables in his modelling of gold demand by the Reserve Bank of India.

Figure 26: Determinants of gold share in foreign reserves - Ghosh (2016a)

Author	Year	Model	Sample	Variable	Factor	Dependent/Independent/Control	Results
Ghosh	2016_A	Instrumental variable GMM	India; monthly data January 1995 – February 2016	Gold share in foreign reserves	Reserves	Dependent	
				Exchange rate: national currency per USD (log)	Exchange	Independent	-

				Exchange rate forward premium	Exchange	Independent	+
				Inflation (log)	Macroecon	Independent	
				Interest rate (short term money market) (log)	Financial	Independent	-
				Stock market capitalization to GDP	Financial	Independent	-
				Interest rate term premium	Financial	Independent	+
				Change in domestic gold price (log)	Gold	Independent	
				Stock market price to earnings ratio volatility	Financial	Independent	+
				Inflation volatility	Macroecon	Independent	+
				Change in current GDP	Macroecon	Independent	+

The results of the study confirm Ghosh´s hypothesis that the Reserve Bank of India responds to the same rationale used by private hedge fund managers and individual investors when increasing/reducing the share of gold in their portfolios. This is evidenced by the tendency of the Reserve Bank of India to increase the share of gold in its total foreign reserves portfolio when a hedge is forecasted to be needed against a potential future depreciation of the local currency (the rupee) versus the dollar (measured by the exchange rate forward premium) or against inflation (measured by inflation volatility). Relative gold reserve levels are also increased when gold can be purchased in attractive terms due to the strength of the rupee versus the USD. Interest rates seem to also influence the Bank´s decisions of gold holdings. In line with Pihlman & Hoorn (2010), who identify an increasing focus on return by central bank reserve managers from the beginning of the 2000´s, the Reserve Bank of India appears to adhere to this reserve management strategy and consequently decreases the share of its gold holdings in the total reserves of the country when short term money market interest rates climb and, consequently, the opportunity costs of holding gold also augment. However, an increment in interest rate premiums (which may signal a future increase in risk) tend to lead the Bank to invest more in gold, which is also consistent with Pihlman & Hoorn´s view on the flight to quality characteristic of gold. It is also relevant that Ghosh finds statistical associations between gold share levels and stock market capitalization to GDP and stock market price to earnings ratio volatility. The author explains the first association –negative– indicating that, in emerging markets, a downturn in the stock market generates a lower degree of trust in the financial markets and influences the Reserve Bank of India to hold a larger share of gold. The second relation is justified using the same rationale; higher volatility implies higher risk and induces flight to quality by the Reserve Bank.

In his work covering other central banks (Ghosh, 2016b), the author studies the determinants of gold share in foreign reserves for 108 countries. Some of the explanatory variables used are shared with the his previous study on the Reserve Bank of India, while others represent a novelty (money supply growth, global financial crisis).

Figure 27: Determinants of gold share in foreign reserves - Ghosh (2016b)

Author	Year	Model	Sample	Variable	Factor	Dependent / Independent / Control	Results
Ghosh	2016_B	Fixed effects & SGMM	108 countries; yearly 1998 - 2014	Gold share in foreign reserves	Reserves	Dependent	
				Exchange rate: national currency per USD (log)	Exchange	Independent	-
				Exchange rate volatility	Exchange	Independent	+
				Global financial crisis (2007 - 2010)	Financial	Independent	+
				Stock market capitalization to GDP	Financial	Independent	-
				GDP per capita growth	Macro econ	Independent	
				Money supply growth	Macro econ	Independent	
				Inflation (log)	Macro econ	Independent	+
				Inflation volatility	Macro econ	Independent	+

In two papers published in 2018, Gopalakrishnan & Mohapatra investigate further the effects of global financial risk (Gopalakrishnan & Mohapatra, 2018a) on the demand for gold by central banks and the repercussion of global liquidity on the demand for gold by central banks of emerging market countries (Gopalakrishnan & Mohapatra, 2018b).

In their study of the relation between global risk and central bank gold holdings, the objective of the authors is to determine whether variables affecting the former have a determinant impact on the latter. For this, they examine 100 countries from 1990 until 2015. The main dependent variable in the study is "gold reserves to total reserves", while the main independent variable chosen is the Chicago Board of Options Exchange´s VIX index, which is a comprehensive measure of global investor perception of risk. Numerous country-dependent independent variables are also included, among them: GDP per capital, capital account openness or trade openness. The study also includes several interesting control variables such as GDP growth (used to control for the propensity of some countries to competitively hoard gold reserves), private credit to GDP (used to control for the level of financial development) or Institutional Investors Rating (which controls for the level of country-specific risk). From a results robustness point of view, Gopalakrishnan & Mohapatra´s study is also satisfactory. For example, the authors test the robustness of the results through the utilization of additional covariances (log of aggregate assets denominated in USD held by central banks, as a proxy for treasury holdings; or European Central Bank Global Risk Aversion index as a substitute of the VIX index). We also find adequate the lagging of all explanatory variables by one period to mitigate contemporaneous reverse feedback effects (although the use of one instead of a different number of periods is not fully justified). The study finds that the level of gold reserves held by central banks increases when global risk is higher, in line with the perception of gold as a safe asset and the perceived necessity of adding diversification to foreign exchange reserves portfolios. While this finding is relevant, its innovativeness is only relative; authors like Ghosh (2016b) had already investigated the influence of high uncertainty periods (global financial

crisis 2007 – 2010) on the share of gold in total reserves, finding a positive statistical association. On the other hand, the results of the Gopalakrishnan & Mohapatra´s study are very interesting in the sense that they analyse how the response of the dependent variable is modulated depending on various country groupings and typologies. For example, the authors discover that the intensity of this response in high-income countries is more marked than in low-income peers. As an explanation, they indicate that sovereign gold reserves portfolio management presents a higher degree of optimality in developed countries, which in turn is attributed to the fact that these have easier access to international financial markets and to risk management instruments. Furthermore, an active sovereign gold reserves portfolio management strategy seems to go hand in hand with a higher correlation between global risk and gold holdings to total reserves. Capital account openness (and other external vulnerability country indicators) is also found to be positively correlated with a more marked response in gold holdings to variations in the VIX index, supporting the role of gold as a hedge against external economic vulnerability; and countries with fixed or pegged exchange rate regimes display a higher sensitivity of gold holding to variations in the VIX index, which is a logical consequence of the function of gold as a mechanism to support the value of these types of currencies. Gopalakrishnan & Mohapatra´s study does not yield results indicating a significant statistical association between the share of gold in total reserves and inflation (for which Ghosh (2016b) had found a significant positive association in his multi-country study –Ghosh had also failed to find a significant statistical association in his research about India (Ghosh, 2016a)–. Gopalakrishnan & Mohapatra´s work does not reveal the existence of a statistical association between gold price and share of gold in total reserves. Although this seems to be counter intuitive, previous studies (Aizenman & Inoue, 2013) had already pointed out in this direction, indicating that countries tend to purchase gold in discrete steps and in a semi-coordinated fashion. The variables GDP per capita, institutional investor rating and private credit to GDP also fail to show any significant statistical association with the share of gold total reserves. To our knowledge, these variables had not been included in previous studies on the explaining factors of gold reserve levels in overall foreign exchange reserves. Private credit to GDP may be a proxy for "private capital flows", used by Oktay et al. (2016), for which the authors found no significant statistical association with their dependent variable "gold reserves".

Figure 28: Determinants of gold share in foreign reserves - Gopalakrishnan & Mohapatra (2018a)

Author	Year	Model	Sample	Variable	Determinant	Factor	Dependent / Independent / Control	Results
Gopalakrishnan & Mohapatra	2018 _A	DGMM & SGMM	100 countries (41 high income/59 developing); yearly 1990 - 2015	Gold share in foreign reserves		Reserves	Dependent	
				Capital account openness (KAOPEN)		Financial	Independent	+
				Global risk aversion (GRA)	Global Risk	Financial	Independent	+
				VIX index	Global Risk	Financial	Independent	+

				GDP per capita (log)		Macroecon	Independent	
				Institutional investor rating		Financial	Independent	
				Private credit to GDP		Financial	Independent	
				Inflation		Macroecon	Independent	
				Gold price (2010 USD)		Gold	Independent	
				GDP growth		Macroecon	Independent	+
				Trade openness = (exp. + imp)/GDP		Trade	Independent	-

As previously mentioned, Gopalakrishnan & Mohapatra have also studied the relation between global liquidity and the demand for gold by the central banks of emerging markets. The authors use a similar methodology to the one employed in their paper on the relation between global risk and central bank gold holdings, and study the period from 1999 to 2015 –which they divide in two sub-periods: 1999 - 2007 (pre-crisis) and 2008 - 2015 (post-crisis)– with a sample of 50 emerging countries. The results obtained show a significant statistical association between liquidity and demand of gold by emerging markets central banks with most liquidity metrics, particularly period after the crisis. Results generally align with those obtained by the same authors in their previous study (Gopalakrishnan & Mohapatra, 2018a) and with those obtained by Ghosh for the period 2007 - 2010 and with the trend observed by Pihlman & Hoorn.

Figure 29: Determinants of gold share in foreign reserves - Gopalakrishnan & Mohapatra (2018b)

Author	**Year**	**Model**	**Sample**	**Variable**	**Determinant**	**Factor**	**Dependent / Independent / Control**	**Results**
Gopalakrishnan & Mohapatra	2018_B	SGMM	50 countries; yearly 1990 - 2015	Gold to GDP		Reserves	Dependent	
				US dollar appreciation		Exchange	Independent	-
				Capital account openness (KAOPEN)		Financial	Independent	+
				Global liquidity measure (GLM) constant 2010 USD (log)	Global liquidity	Financial	Independent	+
				GLM current USD (log)	Global liquidity	Financial	Independent	+
				G4 central bank assets (G4CB) constant USD (log)	Global liquidity	Financial	Independent	+
				G4CB current USD (log)	Global liquidity	Financial	Independent	+
				Interest rate (GDP-		Financial	Independent	-

				weighted short term rate)				
				US Treasury purchase (current USD) (log)		Financial	Independent	+
				VIX index	Global risk	Financial	Independent	+
				Gold price (2010 USD) (log)		Gold	Independent	-
				GDP growth		Macroecon	Independent	-
				TED spread		Financial	Independent	
				Trade openness = (exp. + imp)/GDP		Trade	Independent	-
				Inflation volatility		Macroecon	Independent	
				GDP per capita (log)		Macroecon	Independent	
				Institutional investor rating (log)		Financial	Independent	
				Private credit to GDP		Financial	Independent	
				Inflation		Macroecon	Independent	
				External debt to GDP		Financial	Independent	

SIGNIFICANT GOLD RESERVES DETERMINANTS

The following table summarizes the explanatory variables of gold reserves levels identified in the literature as significant.

Variables are grouped by determinant types ("factors"): exchange rate, financial, gold related, macroeconomic and trade related. Although different authors follow different typological classifications, the general categorization elaborated by the author and presented here is considered adequate, as it amalgamates the several typologies of variables found in the literature.

The column "variable" refers to the independent variables in the studies targeted in this Theoretical Framework chapter. Variables appear duplicated in some case. This is due to the fact that a number of variables has been studied by different authors, or by the same author(s) is different studies. The table only shows variables for which authors have established the existence of a significant statistical association with the dependent variables in question (positive or negative)

"Relation" refers to the existence of a positive or negative statistical association between the independent variables and the dependent variable, which is "share of gold in total reserves", except in the cases of Oktay et al., who study total gold reserves, and Gopalakrishnan & Mohapatra (2018b), who study gold reserve as a percentage of GDP.

The column "year" is included because several of the authors who have researched gold reserves determinants present their findings in more than one academic paper.

Figure 30: Determinants of gold reserves levels – a summary

Factor	Variable	Relation	Author	Year
Exchange rate	*Exchange rate: national currency per USD (log)*	-	Ghosh	2016_A
		-		2016_B
	Exchange rate forward premium	+		2016_A
	Exchange rate volatility	+		2016_B
	US dollar appreciation	-	Gopalakrishnan & Mohapatra	2018_B
Financial	*Net FDI liabilities*	-	Oktay et al.	2016
	Interest rate (short term money market) (log)	-	Ghosh	2016_A
	Stock market capitalization to GDP	-		2016_A
		-		2016_B
	Interest rate term premium	+		2016_A
	Stock market price to earnings ratio volatility	+		2016_A
	Global financial crisis (2007 - 2010)	+		2016_B
	Capital account openness (KAOPEN)	+	Gopalakrishnan & Mohapatra	2018_A
		+		2018_B
	Global risk aversion (GRA)	+		2018_A
	VIX index	+		2018_A
		+		2018_B
	Global liquidity measure (GLM) constant 2010 USD (log)	+		2018_B
	GLM current USD (log)	+		2018_B
	G4 central bank assets (G4CB) constant USD (log)	+		2018_B
	G4CB current USD (log)	+		2018_B
	Interest rate (GDP-weighted short term rate)	-		2018_B
	US Treasury purchase (current USD) (log)	+		2018_B
Gold	*Gold price (2010 USD) (log)*	-	Gopalakrishnan & Mohapatra	2018_B
Macroecon.	*Population*	-	Oktay et al.	2016
	GDP current USD	+		2016
	GDP growth	+	Ghosh	2016_A
		+	Gopalakrishnan & Mohapatra	2018_A
		-		2018_B
	Inflation (log)	+	Ghosh	2016_B
	Inflation volatility	+		2016_A
		+		2016_B
Trade	*Current account balance*	-	Oktay et al.	2016
	Exports of goods and services	+		2016
	Trade openness = (exp. + imp)/GDP	-	Gopalakrishnan & Mohapatra	2018_A
		-		2018_B

On a factor-based variable by variable analysis of the statistical relation between the dependent variables and their determinants, we observe the following:

- EXCHANGE: the variables included in this factor will be divided, for discussion purposes, in two categories: exchange rate, and exchange rate risk.

    - Exchange rate: "Exchange rate: national currency per USD (log)" yields a statistical relation with the dependent variable (share of gold in total reserves) of the same sign as the association found by Gopalakrishnan & Mohapatra in their 2018_ B study on liquidity and gold demand by emerging market central banks, which uses "gold reserves to GDP" as a dependent variable. This is due to the fact that "US dollar appreciation" can be calculated as a differential of the variables "national currency per USD" and therefore can be interpreted as an opposite sign proxy of that variable, and to the fact that the dependent variables in both studies should –*a priori*– present a certain degree of correlation. While

Ghosh justifies the negative sign statistical relation between "exchange rate: national currency per USD (log)" and the share of gold in total reserves by alluding to the hedging properties of gold against exchange rate increases of the USD (as gold is traded in that currency), an additional explanation would be the modulating effect of USD exchange rate on the financial capacity of central banks to purchase gold (price in USD).

- Exchange rate risk: "Exchange rate forward premium" and "exchange rate volatility" are also proxy variables and normally exhibit a high degree of correlation. It is therefore logical that both are found to have a same sign statistical association with the dependent variable (share of gold in total reserves). Ghosh indicates that the positive relation between these independent variables and the share of gold in total reserves is due to the fact that central banks respond to increased risk by holding more gold. In general, this "flight to safety" view is consistent with that of other authors (Karunagaran, 2013; Pihlman & Hoorn, 2010).

- FINANCIAL: the variables grouped in this heading will be categorized in 5 different typologies: interest rate, stock market, openness, risk and liquidity.

  - Interest rate: three variables have been included in this group: "interest rate (short term money market) (log)", "interest rate term premium" (Ghosh, 2016a) and "interest rate (GDP-weighted short term rate)" (Gopalakrishnan & Mohapatra, 2018b). The first and third variable show a negative statistical relation with the share of gold in total reserves and with the ratio of gold to GDP, respectively. The explanation provided by the authors for this relation pivots around the assumption that when interest rates are low, the attractiveness of gold as a treasury and investment vehicle increases. Ghosh relates interest rate term premium increases with an augmentation of risk in the bond markets, which generates a flight to quality and encourages a larger percentage of foreign reserves to be held in gold.

  - Stock market: Ghosh studies the effects of variations in the stock market capitalization to GDP both in India and in a large sample of countries. Results are coherent in both studies, showing the existence of a negative statistical association between this independent variable and the share of gold in total reserves. Ghosh argues that when stock markets loose value, investors´ confidence declines. The author believes that this is also true for sovereign reserves managers, who tend to adopt a conservative investment approach a follow a flight to quality strategy. Purchase of gold tends to be more intense in countries with financial systems in early stages of development, where alternative investment vehicles may be scarce (Ghosh, 2016b). On the other hand, "stock market price to earnings ratio volatility" displays a positive statistical relation with the share of gold in total reserves. The same rationale

applies in this case: more volatility indicates more risk, to which reserve managers react with conservative investment vehicles (i.e. gold).

- Openness: in the table above, this determinant is measure by two variables: "net foreign direct investment liabilities" and "capital account openness (KAOPEN)". In the studies authored by Gopalakrishnan & Mohapatra, "capital account openness" displays a positive statistical relation with the share of gold in total reserves and the ratio of gold to GDP. This is due to the fact that nations with a high level of capital account openness are usually more exposed to rapid changes in flows of capital (Gopalakrishnan & Mohapatra, 2018b). While the ratio of capital flows to GDP had already been identified by Edison (2003) as bearing a significant and positive relation with the demand for reserves, Gopalakrishnan & Mohapatra go a step further and show that liberality in capital flows is associated with a larger appetite for gold by reserve managers. The remaining openness metric, "net FDI liabilities", is a proxy to the previous two variables. ¿Why, then, an opposite sign statistical relation? Although Oktay et al. (2016) do not provide an explanation, they indicate that the result is consistent with previous literature on the matter. Indeed, Aizenman & Lee (2008) attribute the hoarding of reserves to a modern version of monetary mercantilism, by which countries accumulate international reserves to improve competitiveness subsidizing the cost of capital (therefore requiring less foreign direct investment).

- Risk: we find three variables measuring the parameter: "VIX index", "Global Risk Aversion (GRA)" and the dummy variable "global financial crisis". The VIX is an index that fluctuates based depending on the implied volatility of S&P 500 options and is widely recognized as a metric for global risk. The GRA is considered an alternative to the VIX index published by the European Central Bank. All three variables show a positive statistical association with the dependent variables, easily explained by the risk averse approach to portfolio management of reserve managers.

- Liquidity: the three liquidity indicators contemplated –"global liquidity measure (in constant and current USD)", "G4 central bank assets (in constant and current USD)" and "US Treasury purchases"– coherently display a positive relation with gold levels. In high liquidity scenarios interest rates are low –or even negative, in some cases–, which justifies giving more weight to the share of gold in total reserves. Furthermore, Gopalakrishnan & Mohapatra (2018b) observe a more marked association in post-crisis years, which aligns with the views of Pihlman & Hoorn (2010) and Karunagaran (2013) on preference of low risk assets.

- GOLD: the variable classified in this category is "gold price", expressed in 2010 constant USD and in logarithmic form. It evidences a negative statistical association with gold to GDP. Although Gopalakrishnan & Mohapatra do not provide an

explanation for this correlation, classic investment portfolio composition theory indicates that for an equal level of risk, an asset class is more attractive the lower its price, and therefore the share of that asset class in a portfolio tends to grow (Cohn, Lewellen, Lease, & Schlarbaum, 1975).

- MACROECONOMIC variables can be divided in three groups: population, GDP and inflation related.

    - Population: Oktay et al. identify a very high effectiveness inverse statistical relation between population changes and gold reserve levels. While the authors do not explain this finding, it is also remarkable that the relation bears an opposite sign for total reserves and total reserves without gold. We have not found in the literature reviewed an explanation for this phenomenon, although it may be elucubrated that countries with larger populations have larger economies where more investment options for reserve managers exist.

    - GDP related variables are GDP (measured in current USD) and GDP growth. Both variables are identified as contributors to gold accumulation, suggesting a "wealth effect" (Ghosh, 2016a; Oktay et al., 2016). On their study on liquidity, Gopalakrishnan & Mohapatra (2018b) observe a negative statistical association, but its intensity is very low; while on their study on risk (Gopalakrishnan & Mohapatra, 2018a), the intensity of the positive relation was high.

    - Inflation is measured by the variables "inflation (log)" and "inflation volatility". Both show a direct statistical relation with the share of gold reserves in total reserves (Ghosh, 2016a, 2016b), indicating a propensity by reserve managers to investing in asset providing an inflation hedge (i.e. gold) in inflationary scenarios.

- TRADE:

    - "Current account balance": Oktay et al. find that healthier current account balances decrease the appetite for gold reserves. Arguably, when an economy is capable of covering import liabilities with export receipts, its dependence on gold to cover potential trade shocks is lower.

    - "Exports of goods and services" is found to be positively related to gold reserves by Oktay et al. This is consistent with Edison´s (2003) finding that international demand for reserves increases with the share of exports in output, as this elevates current account vulnerability and makes countries more prone to trade shocks (Oktay et al., 2016).

    - The fact that "trade openness/GDP" is found by Gopalakrishnan & Mohapatra in both their studies to bear an inverse relation with gold reserves may seem counterintuitive. However, as noted by Gosselin & Parent (2005), while central

banks tend to increase their reserves in response to more exposure to the potential of external shocks (for example, trade disruptions), in the shorter run foreign exchange interventions may be required. Therefore, countries with a high exposure to potential trade shocks may be better prepared for them holding reserve assets that can be converted into liquidity in an expedite manner.

2.3. Sovereign gold reserves financial performance determinants

While there is no lack of academic research on the returns yielded by gold as an asset class (Bernholz, 2002; Hillier et al., 2006; McCown & Zimmerman, 2006; Sari et al., 2010; Tschoegl Adrian E., 2006), no academic studies have been found to date on sovereign gold reserves financial performance determinants and/or the returns generated by reserve managers on sovereign gold holdings as a result of their portfolio management decisions. The research undertaken by Bernholz (2002) is perhaps the only paper –to the best of our knowledge– to study sovereign gold reserves financial performance, although it does not incorporate an analysis of the determinants of that performance or the role of reserve managers. What the author does is calculating the average annual nominal return of gold from 1930 to 2001 –which he situates at 1.94%– and compares it with the average annual nominal return of three-months US dollar denominated money market instruments (5.58%). He adjusts the results for the decline in the USD/CHF exchange rate (3.56% annually) and obtains a total return difference of 2.02% annually in favour of US dollar money market instruments. Some of the caveats in Bernhoz´s study are:

- The study only considers the price evolution of gold and money market instruments from 1930 to 2001, not the timing of sales and purchases of gold and money market instruments by the Swiss National Bank (SNB). As with any investment portfolio, transaction timing must be taken into account when attempting to determine total returns.

  To illustrate this point, the financial return obtained by Switzerland on its gold holdings would not have been the same if the country had 100 tons of gold in 1930 and had kept those 100 tons of bullion until 2001 without undertaking any transactions, or if the country had added 50 tons to those initial 100 tons buying gold at a high price on January 1st 1980 (668 USD per ounce, or 21,482,000 USD per ton) and then sold 50 tons on July 1st 1999 at a price low of 258 USD per ounce (8,298,500 USD per ton). In the latter scenario the returns obtained by the Swiss National Bank (SNB) would have been 659,000,000 USD lower than in the first case. The main caveat of Bernholz´s study is the omission of this essential element when measuring financial performance. While applying Bernholz´s methodology to the first scenario would produce an accurate financial performance result, doing so in the second case would overestimate financial performance by 659,000,000 USD, roughly 77% of the value of the assumed Swiss sovereign gold holdings at the end of the period under consideration.

- The author does not justify why three-month money market instruments are used as a proxy for the true composition of the non-gold foreign exchange portfolio of the SNB.
- When calculating the total return of gold holdings, Bernholz neglects the nominal returns potentially obtained by the SNB through the lending of physical gold, the writing of options, etc.

In contrast to what happens with sovereign gold reserves and reserve managers, we find that private fund managers are evaluated on their performance and abundant literature exists on both fund performance and determinants (Berk & Green, 2004; Carhart, 1997; Daniel, Grinblatt, Titman, & Wermers, 1997; Grinblatt & Titman, 1989a, 1989b, 1992, 1993; Sharpe, 1966) and fund manager´s performance (Chevalier & Ellison, 1999; Cremers & Petajisto, 2009; F. R. Edwards & Caglayan, 2001). Neither sovereign gold reserves managers nor for foreign reserves portfolio managers are generally subjected to similar stringent performance criteria, and academic literature on the topic is, to our knowledge, non-existent.

CHAPTER 3: RESEARCH METHODOLOGY

1. Hypotheses

This research work has been designed to investigate the financial performance obtained by countries in the management of their sovereign gold reserves and the factors affecting those returns. Using deductive reasoning, two hypotheses have been formulated:

Hypothesis 1: Development acts as a determinant of sovereign gold reserves financial performance

Building on the views of Kaufman et al. (2000) about governance (defined as "the capacity of governments to manage resources efficiently and formulate, implement, and enforce sound policies and regulations") as an important component of development, and in line with the idea that countries with more resources available to manage their gold reserves must obtain superior financial results from those holdings –notably due to the superior access of developed countries to efficient financial markets and sophisticated risk management instruments (Gopalakrishnan & Mohapatra, 2018a)–, the overarching theory behind this study is that countries displaying higher levels of overall development, governance and financial development should obtain superior returns from their sovereign gold reserves. Furthermore, developed countries are usually more resilient to financial (Griffith-Jones & Ocampo, 2009) and trade shocks (Kose & Riezman, 2012), which should reduce pressure to sell gold and suboptimal times and therefore increase gold reserves financial performance (Pihlman & Hoorn, 2010).

Other non-development related possible determinants of sovereign gold reserves financial performance will be included in the modelization, which leads us to hypothesis 2, below.

Hypothesis 2: Determinants of gold demand by central banks act as determinants of sovereign gold reserves financial performance

Due to the inexistence of academic literature on the specific determinants of sovereign gold reserves financial performance, the determinants of gold demand by central banks (Ghosh, 2016a, 2016b; Gopalakrishnan & Mohapatra, 2018a, 2018b; Oktay et al., 2016) will be tested to assess whether they also act as determinants of sovereign gold reserves financial performance. Out of the numerous determinants studied by theses authors (see Theoretical Framework chapter), our research will be focused on those factors identified by the referred authors as having a significant statistical association with gold demand by central banks. Since central banks purchase/sell gold to maximize their economic benefit, determinants of gold demand by those actors should also bear some association with the financial performance obtained.

It is important to note that hypotheses 1 and 2 are not *post factum* theories, as no comparative studies on the financial performance of sovereign gold reserves exist at the time of writing of this research piece.

This chapter describes the methodology used to address the abovementioned research questions, taking appropriately into account the existing research on gold examined in the literature review section and the methodology used in non-gold related financial performance studies.

To test hypothesis 1, two methodologies are used. First, a cross section study of the overall 2000 – 2014 period performance is conducted. Secondly, a GMM panel study of annual sovereign gold management performance is conducted for the same 2000 – 2014 period. To test hypothesis 2, the same GMM panel study methodology is used. Each method will be covered in a separate section of this chapter. Both will have a similar structure, addressing the following points:

- Overview of the research design/approach
- Alternative research approaches
- Population/Sample
- Restrictions/Limiting Conditions
- Sampling Technique
- Procedures
- Variables
- Statistical Treatment
- Unique methodological contributions
- Methodological innovations
- Research problematics/methodological caveats

2. Sovereign gold reserves financial performance of developing vs. developed countries for the period 2000 – 2014: cross section study

By "**research design**", we understand the strategic framework used to guide the research undertaking. By "research methods" we refer to how, when and from which sources will the data be obtained, and which data are more suitable to allow the researcher to answer the question or questions formulated as research hypotheses. In some literature, the two terms are not clearly differentiated. The objective of the "research design" is to provide –using an adequate research methodology– the most valid answers to the research questions formulated.

The first decision that social researchers usually face when undertaking a research paper is whether the objective of the research questions is to describe what is happening in a particular subject (descriptive research) or to help understand the reasons why a particular phenomenon is happening (explanatory research). In this work, the main research question –whether developed countries systematically achieve superior financial results in the management of their

sovereign gold reserves when compared to those obtained by developing countries– is of a descriptive nature. As it happens in this case, descriptive research is usually performed when a particular topic has not been researched in previous studies. As pointed out in the Introduction to this Research Methodology chapter, should this hypothesis be confirmed, an analysis will be undertaken to try and understand what the factors causing those above par / below par returns are, with the ultimate goal of identifying best practices in sovereign gold reserve management to optimize investment returns. This second part of the work is to be considered explanatory research. The undertaking of explanatory research calls for the previous existence of a body of descriptive research. In this case, and due to the absence of this prerequisite, the necessary descriptive research will be contributed by the descriptive part of the thesis.

One of the main categories in research design is the differentiation between qualitative and quantitative research. Considering the objectives and the research questions that this work attempts to address, a quantitative approach has been considered more adequate.

Finally, since the analyses conducted will be performed using secondary data, the research can be considered of a non-experimental nature. One of the key characteristics of this type of research is that the researcher does not exert any direct control over the independent variables and therefore cannot manipulate them or affect them in any manner. This non-experimental approach is very often the one adopted in descriptive research in the social sciences.

Alternative research approaches were contemplated in this thesis. Before the writing of the Background Literature Review and Theoretical Framework sub-chapters, it was expected that the body of academic research on the financial performance obtained by countries on their gold holdings would be, if not abundant, at least sufficient to be used as the descriptive research basis on which to build an explanatory research piece. Finding that this was not the case –since descriptive research on the topic was virtually non-existent–, it was decided to combine in this thesis a descriptive and an exploratory research approach.

The question of whether to use a qualitative or quantitative research design was also meditated. Conducting interviews with central bankers and sending questionnaires to parties involved in sovereign gold management was considered an option to obtain valuable information about how central banks transact gold, under what motives, timing, etc. However, two main considerations lead us to abandon this idea. One was the difficulty of access to central bankers and the probability that those responding do so in a shallow manner due to the hermetic corporate culture typical in the gold divisions of central banks; the other, that even if a considerable number of valid responses were obtained, translating them into results capable of validating research hypotheses would be a significant stretch and therefore the conclusions reached would not have the same soundness –in this case– as using a quantitative approach.

The use of an experimental vs. a non-experimental approach was only lightly considered and the former was quickly discarded, as the possibility of the researcher to directly influence or manipulate the factors influencing the transactions on sovereign gold reserves is inexistent, that is, the researcher does not have any direct control over the independent variables.

One of the key steps in the formulation of a research methodology is deciding on the **population** that will be studied. Typically, since the number of members in the population is too high, a

representative **sample** of that population is chosen to use in the study as a proxy for the overall population.

It is essential that the sampling process is done correctly to ensure that the sample has sufficient representativeness of the total population. Not doing so may difficult the extrapolation of results obtained from the sample to the overall population.

Although diverse sampling techniques exist, when probabilistic sampling is done correctly, a sample of between 10% to 20% of the population is normally sufficient to guarantee that a sample is representative.

Since the main objective of this research work is to find out whether developed countries systematically achieve superior financial results in the management of their sovereign gold reserves when compared to those obtained by developing countries, and to understand whether, the totality of countries holding sovereign gold reserves at some point during the period of study (Q1 2000 – Q3 2014) has been considered to be the adequate population for the study.

The sample used in this study has been the totality of countries holding sovereign gold reserves for which data is available in the World Gold Council statistics (chiefly build on IMF data), with no interruptions, from the first quarter of the year 2000 to the third quarter of the year 2014 (date when this research work began). Additionally, countries holding gold but not having bought and sold gold during this period have been eliminated from the sample, as their inclusion would be more likely to jeopardize –rather than to contribute to– the clarity of the results obtained. These countries are: Aruba, Austria, Bahrain, Belgium, Cameroon, Canada, Central African Republic, Comoros, Congo, El Salvador, Estonia, Gabon, Germany, Ghana, Hungary, Japan, Kenya, Lebanon, Libya, Malaysia, Myanmar, Netherlands, Netherlands Antilles, Nigeria, Papua New Guinea, Saudi Arabia, Singapore, Slovakia, Spain, Syria, Thailand, United Arab Emirates and Yemen. Therefore, 32 countries were eliminated from the initial sample of 122 countries, which represents roughly 25% of the initial sample. Therefore, the sample used in the study represents roughly 74% of the initial sample (which does not include gold holding countries for which no data or no complete data is available for the period Q1 2000 – Q3 2014).

In the early stages of the research, the possibility of using a population sample composed exclusively of countries holding substantial gold reserves was considered. The reason for this was twofold. First, the author assumed that these countries were more likely to dedicate significant resources to formulate and implement their own gold reserve management strategies rather than mimicking those of other nations and that therefore would be prone to obtain either above or below par financial returns on their gold holdings. Second, it seemed plausible that the literature available on gold reserves management by the largest governmental players would likely be more abundant than the one covering countries holding smaller gold reserves, which in turn would help to better understand the reasons for superior/inferior financial performance. Potential representativeness thresholds were evaluated to distinguish large from minor gold holders. However, also in the early stages of this project, the idea of using a population sample integrated only by countries holding substantial gold reserves was discarded due to the following reasons:

- First, an analysis of the literature review on the topic showed that studies on the management of gold reserves by large sovereign holders were not necessarily more

abundant or robust that those on smaller holders (Bahmani-Oskooee, 1987; Guichang, 2005; Lakshmi, 2007; Luanfeng & Qiushi, 2010; Pavabutr & Chaihetphon, 2010; Qi & Wang, 2013; Rockerbie, 1999; Summers, 2007).

- Second, initial findings seemed to indicate that large gold holders were not necessarily active gold traders. It was observed, for example, that the two largest gold holders worldwide –United States and Germany, in that order– did not buy or sell any gold holdings during the period under study. Consequently, it is doubtful that all large gold holders, some of them following "hold" strategies, dedicate vast resources to the formulation of gold trading strategies and tactics that might eventually lead to superior financial results.

- Third, it would not be straightforward from a sampling point of view to device a sampling technique which would guarantee that the sample was representative of the population and, at the same time, had enough sampling units of every subpopulation under study: developing and developed countries (plus further subpopulations that may be needed for the testing of alternative explanations of the main theory).

- Fourth, the size of the population under consideration was not excessively large and the data on this population were readily accessible.

This methodology has been subject to a number of **restricting/limiting conditions**. For example, in terms of the population intended/sample used, it must be noted that intergovernmental gold holding entities such as the IMF, the ECB, the BIS, the West African Economic and Monetary Union (WAEMU) or the Central African Economic and Monetary Community (CEMAC) have not been included in the population of the study. The reasons for this decision are twofold. On one hand, these institutions may not operate under the same constraints as the central banks of individual countries to make decisions of gold purchases and/or sales (this is only assumed and has not been researched); on the other, when examining potential correlations between the degree of development of a country and the financial performance obtained from its gold reserves, the inclusion of the abovementioned supranational institutions would create a methodological problem, as these institutions do not have a GDP per capita associated, which is proxy used to measure development in this study.

Two sources have been contemplated for the data to be used in this study the International Monetary Fund International Financial Statistics (IMF, 2015) and the quarterly time series on world official gold reserves since 2000 compiled by the World Gold Council (World Gold Council, 2015a). The first data set provides monthly data on gold reserves by country from 1948 to 2015. The second data set reports the quarterly gold holdings of countries included in the IMF International Financial Statistics plus other movements that are not reported to the IMF, and has been corrected for misprints. The data were extracted on December 1st, 2014, and reports data available on that date. Data in the World Gold Council time series are taken from the International Monetary Fund's International Financial Statistics and other sources where applicable. Data are for the end of each period, so for example data for Q4 2010 represent reserve holdings as at the end of December 2010. The World Gold Council data table does not list all gold holders: other countries not included are known to hold gold, but they do not report

their holdings publicly. Where the World Gold Council knows of movements that are not reported to the IMF or misprints, changes have been made. The countries showing as having 0.0 tonnes of gold report some gold but less than 0.05 tonnes to the IMF. Other countries may not hold any gold or may not report it to the IMF, and that is why out of the 195 independent countries recognized by the State Department of the United States as of April 11th, 2017 (US State Department, 2017), only 122 have been included in this study.

In the selection of the data set to be used, quality has been considered more important than granularity and, consequently, the second data set has been chosen, as it includes gold transactions not reported to the IMF or incorrectly reflected in the statistics published by this institution. Furthermore, the granularity and time spam covered by World Gold Council data is considered sufficient for the purpose of this research exercise, as its objective is not to undertake a comprehensive performance classification of countries over the longest possible period of time possible but over a time spam just long enough to assess the existence of correlations between financial performance on sovereign gold reserves management and other variables such as GDP per capita.

In terms of **sampling techniques**, the most common procedures are probabilistic and non-probabilistic sampling. In the latter method, the probability of selection of an element of the population is not known. This creates a number of problems if results want to be extrapolated to the total population. Therefore, this technique is mainly limited to research contexts in which it is either not possible to study an aleatory sample or research resources are very limited. It is also used in a first approach to the research problem, to later on obtain a probabilistic sample.

In probabilistic sampling, the probability that an element of the population has of being in the sample is known by the researcher, because she normally knows the total size of the population. In principle, the use of probabilistic sampling in a study increases the chances that results from the research can be extrapolated to the whole population, as long as the sample is valid and representative, for which the researcher must insure that sample size is sufficiently large – especially if the population being studied is not homogeneous or the characteristic under analysis has low prevalence in that population).

The population under study in this research work has been the totality of countries holding sovereign gold reserves at some point during the period of study (Q1 2000 – Q3 2014). The size of this population is not known exactly because, although the total number of countries in existence in the world is known and the total number of countries reporting to have hold at some point between Q1 2000 and Q3 2014 is also known, the number of countries which held gold at some point in the referred period but did not report it is not known exactly.

The sources used in our research have allowed us to access information on 122 countries reporting to hold sovereign gold at some point during the period Q1 2000 to Q3 2014. As previously explained, other countries may not hold any gold or may not report it to the IMF, and that is why out of the 195 independent countries recognized by the State Department of the United States as of April 11th, 2017 (US State Department, 2017), only 122 have been included in this study. Therefore, we could consider this sample of 122 countries a convenience sample (the researcher works with the elements of the population for which he has convenient access to data), and it would belong the non-probabilistic category, as the exact probability of an

element of the population being selected in the sample is not known. This is so because, the population under study would not be the 195 independent countries recognized worldwide or the 122 countries reporting to hold sovereign gold at some point during the period Q1 2000 to Q3 2014 but an indeterminate number in between these two figures: the number of countries holding gold reserves at some point between Q1 2000 and Q3 2014. However, a probability range for elements of the population being in the sample can be easily calculated by dividing the number of countries in the sample (122) by the minimum possible number of countries holding gold reserves at some point during the period under study (122) –ceiling of the probability range– and by dividing the number of countries in the sample (122) by the maximum possible number of countries holding gold reserves at some point during the period under study (195) –floor of the probability range–. In this case, the probability of an element of the population being in the sample ranges from 100% to 62.5%.

In a second stage, the initial sample has been filtered to exclude 32 countries holding gold but not undertaking any transactions during this period, as their inclusion would be more likely to jeopardize –rather than to contribute to– the clarity of the results obtained. This may be considered a type of multi-stage sampling (although this characterization is typically applied to probabilistic sampling). The probability of an element of the population being in the sample mimics closely the percentage range calculated in the previous paragraph, as both the sample and the population size experiment a reduction of 32 elements.

A **variable** can be defined as a characteristic, a property that can take different values or form different categories, which can be measured or observed.

To define a variable, two main approaches can be adopted: constitutive or operative. In the former, a conceptual definition of the variable is provided; in the latter, the definition focuses on the process that will be used to measure the variable.

To test the first proposition of this study –that developed nations must systematically achieve superior financial results in the management of their sovereign gold reserves when compared to those obtained by developing countries, because the former must have more resources available to dedicate to sovereign gold reserves management–, four variables have been used: GDP per capita, GDP per capita ranking, performance, and performance ranking.

The definitions used in this study for these four variables and some relevant additional considerations are:

- GDP per capita: is gross domestic product divided by midyear population. GDP is the sum of gross value added by all resident producers in the economy plus any product taxes and minus any subsidies not included in the value of the products. It is calculated without making deductions for depreciation of fabricated assets or for depletion and degradation of natural resources. Data correspond to the end of the year 2014 and are expressed in USD. They have been sourced from the World Bank national accounts data and the OECD national accounts data files.

  GDP per capita has been used in this case as the chosen proxy to measure the economic development of a country. Although other indicators such as the Human Development

Index may be more comprehensive and include more social components that influence the overall wellbeing of the population, we have opted for GDP per capita due to the purely economic/financial nature of this research, and to the widespread acceptance of this indicator to measure economic development.

The possibility of computing the average of the GDP per capita from 2000 to 2014 for each country and using the result as the variable was also considered. While it would have been more accurate –or "orthodox"– from a statistical point of view, we discarded this approach as we estimated that differences in the results would be insignificant.
The same logic was used when assessing the convenience of using purchasing power parity GDP per capita data instead of nominal GDP per capita.

- GDP per capita ranking: the 89 countries in the final sample were ranked by their GDP per capita and assigned an ordinal ranging from 1 to 89. This was used as a second proxy for economic development, and it was expected that the continuous nature of the values would yield smoother statistical results in the calculation of correlation values.

- Performance: an operative approach will be used to define this variable. Each performance value is the result of applying the following 10-step calculation process:

1. The net quarterly increase / decrease in tons of gold held has been computed for every country.

2. End-of-quarter London PM fix gold prices for every quarter have been adjusted for inflation and converted into their equivalent price in end of quarter 3 2014 US dollars.

3. Results obtained in step 1 have been multiplied by results obtained in step 2, yielding the amount of proceeds / disbursements derived from gold transactions for every country in each quarter. Results obtained from this calculation are approximate, as the exact price of the gold sold / purchased in every transaction is beyond the scope of this exercise and, in many cases, this information is not available to the public.

4. Quarterly proceeds obtained in step 3 have been added up to yield the total amount of proceeds for every country.

5. Quarterly disbursements obtained in step 3 have been added up to yield the total amount of disbursements for every country.

6. Total tons of gold sold from Q2 2000 to Q3 2014 have been calculated for every country by adding up step 1 quarterly decreases.

7. Total tons of gold purchased from Q2 2000 to Q3 2014 have been calculated for every country by adding up step 1 quarterly increases.

8. Results obtained in step 4 have been divided by results obtained in step 6 to calculate

the average price of gold sold for every country.

9. Results obtained in step 5 have been divided by results obtained in step 7 to calculate the average price of gold purchased for every country.

10. Results obtained in step 9 have been deducted from results obtained in step 8 to calculate the difference between the average price of gold sold and the average price of gold purchased.

    It is important to note that for the period under consideration, a number of countries either did not purchase or did not sell any amount of gold (some countries neither sold nor purchased). The methodology used for this initial selection based on performance does not allow to include these countries, although it has been noted that some of them show high average prices for the gold sold or low average prices for the gold purchased.

- Performance ranking: the 89 countries in the final sample were ranked by their performance and assigned an ordinal ranging from 1 to 89. This was used as a second proxy for financial return obtained from sovereign gold holdings, and it was expected that the continuous nature of the values would yield smoother statistical results in the calculation of correlation values.

Variables can be classified attending to several criteria. One of the most important characteristics of a variable is whether it is classified as an independent or a dependent variable. Independent variables are not affected by the other variables measured in a study. In this research, the independent variables are GDP per capita and GDP per capita ranking –the first is a measurement variable (expressed with a cardinal number value) and the latter is a ranked variable (expressed through an ordinal number value). Dependent variables are affected by other variables (or factors), the independent variables. In this study, performance and performance rankings are considered dependent variables. The former would be a measurement variable and the latter would be a ranked variable.

As an initial exploratory exercise aimed at obtaining an initial general view of the situation of sovereign gold reserves financial performance in developing and developed countries, in terms of **statistical treatment** we undertake a simple linear regression analysis of our cross-section data. In addition, standard descriptive statistics are also presented. For these purposes, the main parameters that will be calculated are:

The Pearson´s correlation coefficient is given by the equation:

$$r = \frac{\sum (x - \bar{x})(y - \bar{y})}{\sqrt{\sum (x - \bar{x})^2 \sum (y - \bar{y})^2}}$$

In this study, the Pearson correlation coefficient between GDP per capita and performance, and between GDP per capita ranking and performance ranking will be calculated to test research hypothesis 1: Development acts as a determinant of sovereign gold reserves financial performance.

Two key criteria that the data must fulfil when using the Pearson correlation coefficient is that they must follow a normal distribution and that the observations must be independent. About the latter, we can confirm that they are independent, as the occurrence of one event does not affect the probability of occurrence of another. About the former, a more detailed analysis will be performed in the Results chapter of this work.

Regression models are used to predict the value of the dependent value when the value of the independent variable is known. In this sense, finding that correlation exists between two variables is only a first step, as what researchers are normally interested in are the predicting applications that a particular correlation may allow. In our study, the regression equations adopt the form: Y=a+b*X, and represents a straight line that minimizes the distances from the observations to the regression line. The regressions will be graphed through dispersion diagrams, in which the regression line and the individual observations are plotted. In our study, we will use simple linear regression analysis to assess the predictive power of GDP per capita on performance (and of alternative variables GDP per capita tests fail to reject the null hypothesis). In the regressions in our study, the determination coefficient (R^2) will be calculated[4].

In addition to correlation and regression, basic descriptive statistical measures will also be calculated in this study. These measures will be:

- Measures of central tendency:
    - Mean: it was considered unnecessary to calculate the weighted mean of performance values weighted by average gold reserves values, as the size is gold reserves is indirectly embedded in the method used to calculate performance.
    - Median
    - Mode: in this study, finding the mode has been considered irrelevant, due to the low probability of the same performance values occurring multiple times.
- Measures of dispersion:
    - Range
    - Variance
    - Standard deviation
    - Standard error
    - Minimum
    - Maximum
- Measures of distribution, to assess the normality of the distribution.

[4] This calculation explains the percentage of total variability in the dependent variable that can be traced to the dependent variable; in other words, how much of the total variability in the dependent variable is captured by the regression line. The determination coefficient can range from 0 to 1, being 0 a null explanatory power of the regression and 1 a total explanatory power.

- Kurtosis[5]
- Skewness[6]

One of the main **methodological difficulties** found in this study was that central banks do not report the exact date on which they have transacted gold. World Gold Council statistics only indicate the level of gold that individual countries hold at the end of each quarter. With this information, it can be inferred which countries have purchased or sold gold on a particular quarter. However, no information can be obtained about the exact day in which the transaction took place –it is also possible that several transactions occurred–. End-of-quarter London PM fix gold prices for every quarter –adjusted for inflation and converted into their equivalent price in end of quarter 3 2014 US dollars– have been used as a proxy to estimate the value of the gold transacted in a particular quarter. Furthermore, even if the exact date and hour of the transaction were known, it is unlikely that the gold price used in that transaction would coincide exactly with the corresponding London fixing, as central banks –in the same manner as any market players– has absolute discretion to set prices freely and not follow exactly the London fixing. In general, the exact price of the gold sold/purchased by central banks is not publicly available information. The lack of precision on the question of timing of gold transactions is one of the main **methodological caveats** of this study. Although beyond the scope of this research, testing on whether additional transaction timing granularity might alter results and conclusions of this study would be an interest next step.

As mentioned in the Introduction of this chapter, it has not been possible in this thesis to follow an *ex post factum* theorizing approach, as no previous comparative studies on the topic were available. Instead, the author has formulated the theory that countries with larger gold reserves must have more resources available to manage those reserves and therefore obtain from them a higher financial performance.

Without having financial performance data on which to fundament this statement, the author has observed that among the top ten holders of gold for the period Q1 2000 – Q3 2014, all of them were developing countries, while the bottom 10 holders were all but for one exception developing economies. This cannot be considered surprising, as it is plausible to expect some kind of correlation between the strength of the public finances of a country and its level of gold reserves (as indicated by Summers and Reddy, funds invested in gold are unavailable to other forms of productive domestic investment and may decrease GDP as much as 1% - 2%, figures that developing countries may find very difficult to afford). The gold holdings ranking (including the average holdings for the period Q1 2000 – Q3 2014) is shown in the table below:

Figure 31: Gold holdings rankings 2000-14

[5] Measures the degree of concentration of observations around a central point in the distribution. For a normal distribution, the value of the kurtosis is 0.

[6] Measures the level of asymmetry in a distribution. A positive value indicates that the distribution is skewed to the right, while a negative skewness indicates that the distribution is skewed to the left. A normal distribution would have a skewness value of 0.

COUNTRY	RANKING	AVERAGE GOLD RESERVES IN TONNES	COUNTRY	RANKING	AVERAGE GOLD RESERVES IN TONNES	COUNTRY	RANKING	AVERAGE GOLD RESERVES IN TONNES
United States	1	8,135.74	Peru	43	34.62	Nepal	85	2.85
Germany	2	3,422.23	Mexico	44	34.38	Mozambique	86	2.72
France	3	2,709.51	Slovakia	45	34.24	Kyrgyz Republic	87	2.72
Italy	4	2,451.84	Bolivia	46	31.91	Mauritius	88	2.63
Switzerland	5	1,414.54	Korea	47	29.39	Suriname	89	2.47
Japan	6	764.73	Syria	48	25.87	Luxembourg	90	2.30
China	7	738.24	Ecuador	49	25.80	Tajikistan	91	2.27
Netherlands	8	706.98	Ukraine	50	25.01	Albania	92	2.18
Russia	9	580.02	Morocco	51	22.02	Hong Kong	93	2.08
Portugal	10	449.58	Nigeria	52	21.37	Iceland	94	1.96
India	11	425.55	Belarus	53	17.44	Papua New Guinea	95	1.96
Taiwan	12	422.92	Cyprus	54	14.19	Trinidad and Tobago	96	1.87
Spain	13	390.83	Jordan	55	13.18	Paraguay	97	1.78
Venezuela	14	353.37	Czech Republic	56	12.99	Yemen	98	1.56
United Kingdom	15	332.19	Serbia	57	12.91	Oman	99	1.40
Austria	16	302.89	Cambodia	58	12.44	Chile	100	1.10
Lebanon	17	286.83	Norway	59	9.97	Bosnia and Herzegovina	101	0.78
Belgium	18	238.87	El Salvador	60	9.90	Honduras	102	0.67
Saudi Arabia	19	225.30	Canada	61	9.76	Dominican Republic	103	0.57
Philippines	20	191.27	Netherlands Antilles	62	9.54	Cameroon	104	0.57
Turkey	21	172.03	Sri Lanka	63	9.40	Malawi	105	0.40
Algeria	22	170.70	Afghanistan	64	9.27	Armenia	106	0.35
Sweden	23	154.52	Iraq	65	9.11	Mauritania	107	0.35
Libya	24	138.29	Colombia	66	9.02	Eritrea	108	0.25
South Africa	25	134.48	Ghana	67	8.74	Haiti	109	0.25
Singapore	26	123.08	Latvia	68	7.68	Estonia	110	0.25
Greece	27	114.29	Myanmar	69	7.23	Gabon	111	0.24
Romania	28	104.35	Guatemala	70	6.85	Croatia	112	0.22
Poland	29	102.90	Tunisia	71	6.77	Congo	113	0.21
Thailand	30	98.57	Qatar	72	6.71	Central African Rep.	114	0.21
Indonesia	31	84.05	Bangladesh	73	6.37	Chad	115	0.21
Australia	32	79.79	Macedonia	74	6.07	Malta	116	0.20
Kuwait	33	78.98	Laos	75	5.97	Nicaragua	117	0.12
Egypt	34	75.63	Lithuania	76	5.80	Burundi	118	0.08
Kazakhstan	35	75.50	Ireland	77	5.71	Costa Rica	119	0.06
Denmark	36	66.56	Bahrain	78	4.67	Fiji	120	0.02
Pakistan	37	64.97	Slovenia	79	4.41	Comoros	121	0.02
Finland	38	49.12	Uruguay	80	3.95	Kenya	122	0.02
Brazil	39	43.07	Mongolia	81	3.31			
Argentina	40	41.24	Aruba	82	3.11			
Bulgaria	41	39.88	Hungary	83	3.09			
Malaysia	42	36.34	United Arab Emirates	84	2.93			

Source: World Gold Council (2015a)

Another very significant research challenge was encountered by the author of this research when defining the variable "performance". As explained in the operative definition presented in this Research Methodology, the variable focuses on measuring the difference between the average price of the gold bought by a country from Q1 2000 to Q3 2014 and the average price of the gold sold in that same period by that same country.

Since we have not found in the literature studies assessing the financial performance of sovereign gold holdings –except for Bernholz (2002), with the severe limitations that we summarize below–, we have looked at other studies analysing the measurement of financial performance for other asset classes and we have developed a series of 10 steps to calculate this variable.

As indicated, Bernholz (2002) has conducted the only study on the financial performance of sovereign gold holdings that the author of this thesis is aware of. In his research, Bernholz calculates the average annual nominal return of Swiss gold from 1930 to 2001 –which he situates at 1.94%– and compares it with the average annual nominal return of three-months US dollar denominated money market instruments (5.58%). He adjusts the results for the decline in the USD/CHF exchange rate (3.56% annually) and obtains a total return difference of 2.02% annually in favour of US dollar money market instruments. The caveats in Bernholz´s study have been mentioned in the Theoretical Framework sub-chapter.

Among the studies consulted to develop our 10-step financial performance methodology, one of the most relevant was authored by Grinblatt & Titman (1989b). While the authors do not present in this paper a performance calculation methodology per se, they provide valuable insights about several measures of portfolio performance, such as the question of selecting an

adequate benchmark portfolio or the incorporation of risk considerations when assessing performance.

Portfolio performance is typically measured comparing its returns with those generated by a passively managed portfolio in the same risk class (Steiner et al., 1999). In our methodology we have considered sovereign gold portfolios not reporting purchases and/or sales as passively managed portfolios and used them as a sort of performance benchmark, in which returns generated by the asset in the same risk class (physical gold) would be those derived from the holding of the metal and its price appreciation or depreciation.

The methodology used in this study differs from that used by Steiner et al. (1999) in the importance given to market timing. Steiner et al. base their performance assessment in the assumption that portfolio managers do not have particular insights or technical knowledge allowing them to profit from market timing decisions; for these authors, abnormal portfolio performance –both above par and sub-par financial returns– are due to stock selection. As illustrated above in this chapter, it seems that market timing may have a very significant influence on the financial returns obtained by sovereign gold reserves managers. Furthermore, as it has been presented in the Background Literature Review chapter of this work, a number of solid academic studies confirm that it is possible for reserve managers operating in the gold markets to gain insights into market timing. Therefore, we have registered gold transactions undertaken by countries at the most accurate approximation of their market values taking into account when they took place.

In our methodology we have not considered transactions costs, which may as in other asset classes be inversely related to the amounts of assets transacted –therefore it would be plausible that countries buying or selling large quantities of gold (normally large reserve holders which are, as we have seen, mostly developed nations) would benefit from more advantageous prices that would contribute to improve their financial performance metrics–. The main reason behind this methodological decision (caveat) is that fact that we are not aware of sources where this information can be found.

Another study authored by Grinblatt & Titman (1989a) presents a step by step methodology to assess the financial performance of fund managers. While measuring the returns of an investment fund is slightly more complex that assessing the financial performance of a 1 asset portfolio such as the gold reserves of a country, some of the principles and methods used by Grinblatt & Titman were considered valid four our methodology. For example, funds in Grinblatt & Titman´s study did not report the exact timing of their purchases/sales of stocks. Instead, the authors had to calculate the hypothetical mutual fund returns as the yield of the portfolio of listed equities reported in the quarterly reports provided by the funds to the Securities and Exchange Commission (SEC). As with our methodology, this system does not produce absolute accuracy on the yields obtained, but an approximation. Grinblatt & Titman (1989a) did not have sufficient information about assets different from exchange traded equities held in the funds´ portfolios (fixed income instruments, cash positions, over-the-counter securities, etc.) and opted for not excluding those altogether from their study arguing that it seemed unlikely that they had a significant effect on the hypothetical returns of the funds for the time period under consideration, as the abovementioned positions were not large. We have

used the same reasoning in our study to not include in the computations that additional yield generated by gold lending, writing of options on gold, etc.

Turning now to **unique methodological contributions/innovations**, this study addresses one of the main limitations in Bernholz´s research (2002) and reflects gold transactions taking place between the beginning and the end of the assessed period in the calculations of financial return. As we have explained, the omission of these intermediate transactions severely distorts real portfolio performance.

However, due to the fact that quarterly holdings data have been used, this study cannot guarantee that the calculation of the financial returns obtained by each country is completely accurate. Nonetheless, this approximation can be assumed to be a much closer representation of reality than the one presented by Bernholz.

Although successfully addressing the abovementioned limitation present in Bernholz´s study represents a methodological innovation, it cannot be said that our study is unique in this sense, as the problem had been already tackled by other research pieces such as the one authored by Grinblatt & Titman (1989a).

One of the aspects that may labelled as methodologically unique is the 10-step process used to calculate the dependent variable "performance". The method, although simple, is effective for the purpose of the exercise and presents a number of innovations such as:

- The use of end-of-quarter London PM fix gold prices for every quarter adjusted for inflation and converted into their equivalent price in end of quarter 3 2014 US dollars. The incorporation of inflation adjusted prices is important to increase the accuracy of financial return assessment. To illustrate this point, let us assume that a country X buys 10 tons of gold on January 1st, 2000 at a non-inflation adjusted price of x US dollars per ton and then resells them on September 30th, 2014 at the same non-inflation adjusted price of x US dollars per ton. Another country Y buys 10 tons of gold on January 1st, 2014 at a non-inflation adjusted price of x US dollars per ton and resells them on September 30th, 2014 at the same non-inflation adjusted price of x US dollars per ton. If we now adjust those prices for inflation (using US inflation data), country X would have bought the 10 tons of gold at an inflation adjusted price of 234.8/176.2 x US dollars and sold them at a price of x US dollars. Therefore, country X would have incurred a loss of roughly 33% on its investment. On the other hand, country Y would have bought 10 tons of gold at an inflation adjusted price of 234.8/237 x US dollars and sold them at a price of x US dollars. Therefore, country Y would have obtained a gain of approximately 1% on its investment, over a substantially shorter time horizon.

  Although the incorporation of this concept is equivalent to discounting (time value of money), which is amply used both in corporate and market finance, studies on gold do not typically include this basic dimension.

- Most financial performance measurement methodologies yield percentages as end products. In this study, performance is a cardinal number representing the difference between the average price at which a country has sold gold in the period Q1 2000 to Q3 2014 and the average price at which that country has purchased gold in that same period.

With this methodology, we do not factor in the financial return derived from the volume of gold held over the totality of the period.

As can be seen in the performance data, a simple buy and hold strategy would have been more profitable for many countries that the trading they undertook. However, the objective of this study is to assess whether superior financial performance in the management of gold reserves is linked to other resources related variables and, therefore, particular attention is paid to countries actively buying and selling gold and the methodology to calculate performance has been adapted accordingly.

Another particularity of this study is the use of ranked variables, GDP per capita ranking and performance ranking. The 89 countries in the final sample were ranked by their performance and by their GDP per capita assigned an ordinal ranging from 1 to 89. These variables were used as proxies for financial return obtained from sovereign gold holdings and economic development, respectively, and it was expected that the continuous nature of the values would yield smoother statistical results in the calculation of correlation values and other statistical measures.

In conclusion, this section describes the first research methodology used to test hypothesis 1, from the perspective of overall period (2000-2014) sovereign gold reserves financial performance.

The overarching theory behind this study is that developed countries display better governance, have more resources available to manage their gold reserves and are more resilient to financial and trade shocks. From here, hypothesis 1 –linking development with sovereign gold reserves financial performance– is formulated, and these first linear regressions test whether developed nations systematically achieve superior financial results in the management of their sovereign gold reserves when compared to those obtained by developing countries.

Considering the inexistence of academic literature on comparative financial performance of sovereign gold reserves, this part of the thesis presents a major descriptive and exploratory component. In the second methodological approach used to study sovereign gold reserves financial performance, an analysis will be undertaken to try and understand what the factors causing above / below par returns are, with the ultimate goal of identifying best practices in sovereign gold reserves management and optimize investment returns. This second part of the work is more of an explanatory nature.

The research undertaken will be quantitative and will use secondary data sourced primarily from the WGC, the IMF and the World Bank. The period of time studied goes from the beginning of the first quarter of the year 2000 to the end of the third quarter of the year 2014 and gold holdings are reported quarterly (at the end of each quarter).

The population of the study is totality of countries holding sovereign gold reserves at some point during the period of study (Q1 2000 – Q3 2014), while the sample used is the totality of countries holding sovereign gold reserves for which data is available in the World Gold Council statistics, with no interruptions, from the first quarter of the year 2000 to the third quarter of the year 2014, except those countries which belong to this group but have not bought and sold gold during the period (33 countries), leaving a sample size of 89 countries. Intergovernmental gold

holding entities such as the IMF, the ECB, the BIS, the West African Economic and Monetary Union (WAEMU) or the Central African Economic and Monetary Community (CEMAC) have not been included in the population of the study. The sample used can be considered a non-probabilistic convenience sample, as the exact number of countries holding gold reserves at some point between Q1 of 2000 and Q3 of 2014 (but not reporting their holdings) is not known.

Four variables have been used to test the main hypothesis: two independent variables –GDP per capita and GDP per capita ranking– and two dependent variables –performance, and performance ranking–. GDP per capita: is gross domestic product divided by midyear population, and is used as a proxy for economic development. To calculate GDP per capita ranking, the 89 countries in the final sample were ranked by their GDP per capita and assigned an ordinal ranging from 1 to 89. Performance values are the results of applying a 10-step calculation process, based on the difference between the average price of gold bought and sold by each country in the sample. Performance ranking was calculated using the same methodology as for GDP per capita ranking.

In terms of statistical treatment, we perform a simple linear regression analysis of our cross-section data, in addition to basic descriptive statistics measuring central tendency, dispersion and distribution, correlation studies and regression models will be used to analyse the data. The Pearson correlation coefficient will be calculated.

A number of methodological problems were encountered by the authors of this study. The main one was the impossibility of finding the precise timing of the gold transactions undertaken by the countries in the sample. This made impossible to price accurately those gold transactions. Another very significant research challenge was encountered by the author of this research when defining the variable "performance". Within the limits imposed by the available data, the methodology used to calculate this variable gives considerable importance to when intra-period transactions are performed and at what prices. Finally, our study does not include in the performance computations additional yields generated by gold lending, writing of options on gold, etc., due to the difficulty/virtual impossibility of having access to this data for the 89 countries in the sample.

In terms of methodological innovations, this study uses of end-of-quarter London PM fix gold prices for every quarter adjusted for inflation and converted into their equivalent price in end of quarter 3 2014 US dollars. The incorporation of inflation adjusted prices is important to increase the accuracy of financial return assessment. Furthermore, the performance calculation methodology used allows not to factor in the financial return derived from simply holding gold but not trading it.

3. Sovereign gold reserves financial performance of developing vs. developed countries for the period 2000 – 2014: panel study

In terms of **research design/approach**, and as discussed in section 2, one of the first decisions that social researchers usually face is whether to undertake descriptive research or explanatory research to answer a research question. With this second research methodology we will attempt to do both. First, we will try to identify whether there are groups of countries with common

characteristics obtaining above/below par returns and following similar patterns in the management of their sovereign gold reserves. This research presents a clear descriptive nature, as the topic has not been researched in previous studies (at least the topic of comparative sovereign gold reserves financial performance). Subsequently, an analysis will be undertaken to try and understand what the factors causing those above par / below par returns are, with the ultimate goal of identifying best practices in sovereign gold reserve management to optimize investment returns. This second part of the work is to be considered explanatory research.

As noted above, one of the key points in research design is the differentiation between qualitative and quantitative research. Considering the objectives of this work and the research question at hand, a quantitative approach has been considered more adequate.

Finally, it must be noted that for this second methodology the analyses conducted will be performed using secondary data, and therefore the research can be considered of a non-experimental nature. It is a given for this type of research that the researcher does not exert any direct control over the independent variables and therefore cannot manipulate them or affect them in any manner.

Since one of the key objectives of this part of the research work is to find out whether there are groups of countries with common characteristics following similar patterns in the management of their sovereign gold reserves and overperforming or underperforming peers in the returns obtained from their sovereign gold holdings, the totality of countries holding sovereign gold reserves at some point during the period of study (Q1 2000 – Q3 2014) has been considered to be the adequate **population** for the study.

The **sample** used in this study has been the totality of countries holding sovereign gold reserves for which data is available in the World Gold Council statistics (chiefly build on IMF data), with no interruptions, from the first quarter of the year 2000 to the third quarter of the year 2014 (date when this research work began). Additionally, countries holding gold but not having bought or sold gold during this period have been eliminated from the sample, as their inclusion would be more likely to jeopardize –rather than to contribute to– the clarity of the results obtained. It is important to note that, this sampling methodology differs from that used in the first research question in one aspect: the sample used in the first research question excluded countries not having bought AND sold gold during the period covered by the study, while the sample used in the second research question excludes countries not having bought OR sold gold during the period covered by the study (i.e. a single gold transaction –purchase or sale– during the period would be sufficient for a country to be included in the sample). With this sampling methodology, from the initial sample of 122 countries we obtained a second sample of 110 countries. Finally, a further reduction in the sample size was necessary to obviate countries with more than 8 data points missing in explanatory variables for the years 2000 - 2014. The final sample is integrated by 100 countries and therefore approximately represents 80% of the initial sample.

On que matter of **restrictions/limiting conditions**, and in relation to the population intended/sample used –as it has been done for the first research question– it must be noted that intergovernmental gold holding entities such as the IMF, the ECB, the BIS, the West African Economic and Monetary Union (WAEMU) or the Central African Economic and Monetary

Community (CEMAC) have not been included in the population of the study. The reason for this decision coincides fully with the first reason explained in the case of the first research question: these institutions may not operate under the same constraints as the central banks of individual countries to make decisions of gold purchases and/or sales (this is only assumed and has not been researched); and partially with the second reason offered in the case of the first research question: when examining potential correlations between indicators of a country and the financial performance obtained from its gold reserves, the inclusion of the abovementioned supranational institutions would create a methodological problem, as the same indicators are not available for the abovementioned institutions.

In terms of data sources, the considerations signalled for the first research question are also applicable here.

Although granularity of data has some importance in the analyses performed to address this second research question –and therefore monthly IMF data could have been preferred over World Gold Council quarterly data– quality has still been considered more important than granularity and, consequently, the second data set has been chosen, as it includes gold transactions not reported to the IMF or incorrectly reflected in the statistics published by this institution. Furthermore, the low frequency of gold transactions –not often several per quarter – adds weight to our choice.

The **sampling technique and procedures** used in the first research question are also applicable here. The only difference would be that in the second stage of the sampling procedure, the initial sample of 122 countries has been reduced by 22 instead of 32 countries (as explained above).

3.1. Dependent variables

The dependent variables used in the panel study will be categorized in two areas: those measuring sovereign gold reserves performance and those measuring sovereign gold reserves levels. The former are aimed at answering hypothesis 1 of this thesis; the latter are necessary to provide a response to hypothesis 2.

3.1.1. Gold reserves performance

- Annual gold management performance: an operative approach will be used to define this variable. Each performance value is the result of applying a calculation process comprised of the following steps:

    1. The net quarterly increase / decrease in tons of gold held has been computed for every country. Figures have been multiplied by -1 for computing purposes.

    2. End-of-quarter London PM fix gold prices for every quarter have been adjusted for inflation and converted into their equivalent price in end of quarter 3 2014 millions

of USD per ton (through a multiplication by 32,151 –number of ounces per ton– and a division by 1,000,000 –number of dollars per million–).

3. The results obtained in step 2 have been used to calculate the average price of gold per ton for each year (in end of quarter 3 2014 millions of USD per ton).

4. For each quarter, results obtained in step 3 have been subtracted from results obtained in step 2. This metric assesses how advantageous / disadvantageous was to sell / purchase gold in a particular quarter. Results obtained from this calculation do not reflect the exact price of the gold sold / purchased in every transaction. This is beyond the scope of this exercise and, in many cases, this information is not available to the public as central banks do not report the exact dates of their gold transactions.

5. Results obtained in step 1 have been multiplied by results obtained in step 4 to factor in the size of the gold transactions undertaken in the above / below average gold price described in step 4.

6. Quarterly results obtained in step 5 have been added up by year (data used comprise 3 quarters in 2000 –Q2 to Q4– and 2014 –Q1 to Q3–, and 4 quarters in the remaining years) and divided by 4 (by 3 in the years 2000 and 2014). This calculation represents the above / below par annual performance of every country expressed in monetary terms (millions of USD).

7. Since countries hold very different amounts of gold and since gold prices vary from year to year, the metric obtained in step 6 would not serve the purpose of a comparative performance analysis between the countries included in the sample. Therefore, results obtained in step 6 have been divided by the number of gold tonnes held by every country in the initial quarter of each year and the price of gold in the same quarter (in end of quarter 3 2014 millions of USD per ton).

The measurement variable obtained as a result of the calculations described above is expressed as a percentage and reflects to what extent a country has benefitted / lost from timing optimally / sub-optimally its gold purchases / sales within the year as a percentage of the value of its total gold holdings. It is important to point out that results for this variable are in most cases a small fraction of a percentage point, which at first sight might indicate that the repercussion of timing in sovereign gold transactions is negligible. However, it must be noted that low figures obtained are a consequence of the division of results obtained in step 6 by the total monetary value of sovereign gold. Should results in step 6 be divided by the value of the sovereign gold transacted in that year, values in step 7 would be much higher. The division of results in step 6 by the value of the sovereign gold reserves and not by the amount transacted in a particular year allows to factor in the performance metric not only transaction timing considerations but trading volume decisions. We felt that, as with the trading of any financial instrument, taking into account only the timing and not the volume of the transactions, would fail to generate a complete picture of the optimality of trading decisions taken.

This variable has been computed with an annual periodicity for simplicity purposes when

integrating it in models with independent and control variables, which for me most part are also available with an annual periodicity. These annual performance results can be consulted in the corresponding section of the following chapter.

For descriptive purposes, the following metrics have also been calculated (and are presented in the same section of the following chapter):

- Average annual performance: expressed in percentage terms. Only years in which at least one gold transaction was performed have been included, in order not to dilute the impact of optimal / suboptimal timing.
- Gold management profit/loss (current USD): reflects the actual effect of timing in gold purchases / sales for every country in each year. It is expressed in millions of USD.
- Cumulative performance: added performance from Q2 2000 until Q3 2014.
- Cumulative monetary value: reflects the actual effect of timing in gold purchases / sales for every country for the totality of the period under study. It is expressed in millions of USD.
- Performance ranking: a ranked variable was obtained by ranking the countries in the final sample by their performance. The list was then divided in top performers and bottom performers.

The variable "gold management profit/loss (current USD)", calculated by multiplying the values of the variable "annual gold management performance" by those of the variable "gold reserves (current USD)" may also be used as a proxy for the dependent variable "annual gold management performance" should additional robustness test of the model estimating this latter variable were to be necessary.

3.1.2. Gold reserves levels

The statistical association between economic determinants and the levels of sovereign gold reserves has been studied by authors such as Bahmani-Oskooee (1987), Luafeng & Quishi (2010) and several others already covered in this work (Ghosh, 2016a, 2016b; Gopalakrishnan & Mohapatra, 2018a, 2018b; Oktay et al., 2016).

To measure country gold reserves, we have chosen to use relative metrics instead of total volume –or value– or gold reserves, as this would not be too indicative, considering the large differences in GDP from country to country and the subsequent expected differences in gold holdings. The following table summarizes the variables used to measure reserve levels as well as their main characteristics and sourcing details.

Figure 32: Dependent variables - Levels of gold reserves

Indicator Name	Definition (and construction)	Origin	Source	Coding	Units
Gold reserves to total reserves	Ratio of central bank gold reserves to total reserves including gold (both in current USD)	Calculated	IMF International Financial Statistics	FI.RES.TOTL.CD ; FI.RES.XGLD.CD	%
Gold reserves to GDP	Ratio of total sovereign gold reserves to GDP per capita (current USD)	Calculated	Gold reserves: IMF International Financial Statistics ("total reserves (including gold)" - "total reserves (minus gold)". GDP: World Bank World Development Indicators. Population: (1) United Nations Population Division. World Population Prospects: 2017 Revision. (2) Census reports and other statistical publications from national statistical offices, (3) Eurostat: Demographic Statistics, (4) United Nations Statistical Division. Population and Vital Statistics Reprot (various years), (5) U.S. Census Bureau: International Database, and (6) Secretariat of the Pacific Community: Statistics and Demography Programme.	FI.RES.TOTL.CD; FI.RES.XGLD.CD; NY.GDP.MKTP.CD; SP.POP.TOTL	%
Gold reserves to GDP/capita	Ratio of central bank gold reserves to GDP (current USD)	Calculated	Gold reserves: IMF International Financial Statistics ("total reserves (including gold)" - "total reserves (minus gold)". GDP (current USD): Word Bank World Development Indicators	FI.RES.TOTL.CD; FI.RES.XGLD.CD; NY.GDP.MKTP.CD	%
Gold reserves per capita	Ratio of central bank gold reserves (current USD) to population	Calculated	Gold reserves: IMF International Financial Statistics ("total reserves (including gold)" - "total reserves (minus gold)"	FI.RES.TOTL.CD; FI.RES.XGLD.CD;nS P.POP.TOTL	%

As discussed in the Theoretical Framework sub-chapter, “gold reserves to total reserves” is the most widely used dependent variable in the literature on gold demand by central banks. We will also use this variable as our main dependent variable to assess gold reserve management (not performance). Since this variable is a ratio, it is important to note that it is integrated by two components: the value of gold reserves in current USD and the value of total foreign reserves in current USD. Although intuitively a variation in the variable tends to be associated with a country purchasing or selling gold, this may not be the case; variations in the value of this variable may occur due to an increase or diminution in the volume of gold holdings, in the volume of other reserve assets or in their values (exchange rate or gold price fluctuations). It is important to note that countries´ foreign reserves target levels are not static but evolve with time (Cheung & Ito, 2009), depending on the international financial scenario (crisis / non-crisis) and numerous other factors. National and international perceptions on reserve adequacy levels also play a role in the amount of reserves that countries hold. Academic literature on the topic advises for the analysis of the ratios of volatile cash flows, imports and short term debt to total reserves, and some authors point out that reserve levels superior to the value of the national debt maturing within 1 year are not conductive to a reduction of countries´ propensity to be affected by a crisis (Lakshmi, 2007).

"Gold reserves to GDP per capita" and "gold reserves per capita" have also been included because they represent a novelty in the academic literature on gold demand by central banks and sovereign gold reserves management. To the best of our knowledge, no other authors have studied what factor affect these variables.

"Gold reserves per capita" is a calculated variable that measures how much gold (in current USD) would correspond to every person in a country. It does not consider the level of wealth (or economic development) of a country. A priori, gold reserves per capita should be higher in a developed country than in a developing nation.

The variable "gold reserves to GDP per capita", which is also a calculated variable, removes the level of wealth factor, and helps compare countries with similar development levels.

The variable "gold reserves to GDP" is used by authors such as Gopalakrishnan & Mohapatra (2018b).

Due to the similarities in their correlation coefficients with independent variables in the study, the latter three variables –gold reserves per capita, gold reserves to GDP per capita and gold reserves to GDP– will be uses in additional robustness tests for the modelization of the variable "gold reserves to total reserves".

3.2. Independent variables – Initial selection

Considering the large exploratory component of this work –particularly in the search for determinants of sovereign gold reserves management performance–, we decided to initially gather data for a large number of independent variables of different types rather than focusing a narrow selection of variables. In total, we have gathered data on 43 variables, whose values can be consulted in the appendix.

We anticipate that for a large percentage of these variables, no intense statistical association will be found –particularly with the dependent variable "performance"–. The inexistence of academic literature of this particular type of association is the chief reason leading us to use a wide of range of distinct independent variables. Gopalakrishnan & Mohapatra (2018a) also use a large number of variables (15+) in their research about the effect of financial risk on sovereign gold reserve levels. The same happens with Lacalle et al. (2015), who include over 20 explanatory variables in their work about the effects of aid and microfinance on growth.

For the selection of independent variables we have built on two types of research: the work undertaken by authors working in economic development –Acemoglu et al. (2008), Burnside & Dollar (2000), Kaufman et al. (2000) and Lacalle et al. (2015)–; and the work carried out by academics studying the factors driving gold demand by central banks (Ghosh, 2016a, 2016b; Gopalakrishnan & Mohapatra, 2018a, 2018b; Oktay et al., 2016).

In this initial data gathering exercise, independent variables have been categorized in the following 14 groups: aid, credit, development, economic, exchange rate, geographic &

demographic, gold related, governance, government finance, income, inequality, inflation, openness, risk.

This classification has been inspired by elements of the variable grouping used by Lacalle et al. (2015) and Gopalakrishnan & Mohapatra (2018a, 2018b) but incorporates a number of categories not present in those studies.

In the following tables, the variables compiled for each category are described. Information is provided on their indicator name, definition (and construction), origin, source, coding and units. In the categories of variables where the link with gold performance is considered less intuitive, a rationale for the inclusion of those variables in the initial selection is provided. However, since a large number of the variables chosen in this initial selection will not be included in the final variable selection to be used in the modelizations, it has been considered that offering detailed selection rationales for every variable at this stage was not pertinent.

AID

Figure 33: Independent variables - aid

Indicator Name	Definition (and construction)	Origin	Source	Coding	Units
Official development aid (% GDP)	Net official development assistance (ODA) consists of disbursements of loans made on concessional terms (net of repayments of principal) and grants by official agencies of the members of the Development Assistance Committee (DAC), by multilateral institutions, and by non-DAC countries to promote economic development and welfare in countries and territories in the DAC list of ODA recipients. It includes loans with a grant element of at least 25 percent (calculated at a rate of discount of 10 percent).	Sourced	Development Assistance Committee of the Organisation for Economic Co-operation and Development, Geographical Distribution of Financial Flows to Developing Countries, Development Co-operation Report, and International Development Statistics database. Data are available online at: oecd.org/dac/stats/idsonline. World Bank GNI estimates are used for the denominator.	DT.ODA.ODAT.GN.ZS	%

Remittances (% GDP)	Personal remittances comprise personal transfers and compensation of employees. Personal transfers consist of all current transfers in cash or in kind made or received by resident households to or from nonresident households. Personal transfers thus include all current transfers between resident and nonresident individuals. Compensation of employees refers to the income of border, seasonal, and other short-term workers who are employed in an economy where they are not resident and of residents employed by nonresident entities. Data are the sum of two items defined in the sixth edition of the IMF's Balance of Payments Manual: personal transfers and compensation of employees.	Sourced	World Bank staff estimates based on IMF balance of payments data, and World Bank and OECD GDP estimates.	BX.TRF.PWKR.DT.GD.ZS	%
Development assistance per capita (cons 2015 USD)	Ratio of net official development assistance received (constant 2015 USD) to total population	Calculated	World Bank	DT.ODA.ODAT.KD; SP.POP.TOTL	USD (constat 2015)

CREDIT

Figure 34: Independent variables - credit

Indicator Name	Definition (and construction)	Origin	Source	Coding	Units
Private credit to GDP	Domestic credit to private sector (% of GDP)	Sourced	World Bank World Development Indicators	FS.AST.PRVT.GD.ZS	%
External debt stocks (%GNI)	Total external debt stocks to gross national income. Total external debt is debt owed to nonresidents repayable in currency, goods, or services. Total external debt is the sum of public, publicly guaranteed, and private nonguaranteed long-term debt, use of IMF credit, and short-term debt. Short-term debt includes all debt having an original maturity of one year or less and interest in arrears on long-term debt. GNI (formerly GNP) is the sum of value added by all resident producers plus any product taxes (less subsidies) not included in the valuation of output plus net receipts of primary income (compensation of employees and property income) from abroad.	Sourced	World Bank International Debt Statistics	DT.DOD.DECT.GN.ZS	%

DEVELOPMENT

Figure 35: Independent variables - development

Indicator Name	Definition (and construction)	Origin	Source	Coding	Units
Human development index (HDI)	The Human Development Index (HDI) is a summary measure of average achievement in key dimensions of human development: a long and healthy life, being knowledgeable and have a decent standard of living. The HDI is the geometric mean of normalized indices for each of the three dimensions.	Sourced	United Nations Development Programme	HDI	0 to 1 (max)

ECONOMIC

Figure 36: Independent variables - economic

Indicator Name	Definition (and construction)	Origin	Source	Coding	Units
Savings (%GDP)	Gross savings are calculated as gross national income less total consumption, plus net transfers.	Sourced	World Bank national accounts data, and OECD National Accounts data files.	NY.GNS.ICTR.ZS	%
Unemployment (%)	Unemployment refers to the share of the labor force that is without work but available for and seeking employment.	Sourced	International Labour Organization, ILOSTAT database. Data retrieved in September 2018.	SL.UEM.TOTL.ZS	%
Gross fixed capital formation (% GDP)	Gross fixed capital formation (formerly gross domestic fixed investment) includes land improvements (fences, ditches, drains, and so on); plant, machinery, and equipment purchases; and the construction of roads, railways, and the like, including schools, offices, hospitals, private residential dwellings, and commercial and industrial buildings. According to the 1993 SNA, net acquisitions of valuables are also considered capital formation.	Sourced	World Bank national accounts data, and OECD National Accounts data files.	NE.GDI.FTOT.ZS	%

EXCHANGE RATE

The rationale for the inclusion of this factor as an explanatory variable stems from the fact that gold is normally traded in US dollars and the predominant academic opinion that, consequently, the exchange rate of this currency is one of the key factors affecting gold prices. The underlying reason explaining this is the consideration of gold as a quasi-currency. The relation between gold prices and currency exchange rates has been studied by a number of authors (as presented in the Background Literature Review sub-chapter). Tully & Lucey (2007) study the associations between gold cash and futures prices and significant economic variables, finding that the dollar exchange rate influences the price of gold. Results obtained by Sari et al. (2010) align with Tully & Lucey´s findings, since the former discover the existence of weak long-run and strong short-run equilibrium trends between gold prices and the US dollar/euro exchange rate. Zhang

& Wei (2010) find an intense correlation coefficient of negative sign between the Nominal Broad US Dollar Index and the price of gold for the period.

Turning now to the association between exchange rates and gold reserve levels, Ghosh (2016a, 2016b) studies the statistical association between the ratio of gold reserves to total foreign reserves per country and the exchange rate of the national currency against the dollar, finding that a weakening of the domestic currency versus the USD tends to lead to lower gold to total reserves ratios. Gopalakrishnan & Mohapatra (2018b) also undertake research including a proxy variable (US dollar appreciation) and obtain similar findings.

With these precedents in academic literature, we have felt adequate to include this variable in our selection and further the research done to date by investigating a potential statistical association between exchange rates and sovereign gold reserves management financial performance.

Figure 37: Independent variables – exchange rate

Indicator Name	Definition (and construction)	Origin	Source	Coding	Units
US exchange local currency	Exchange rates against the US dollar (XRD)	Sourced	Bank for International Settlements (BIS)		Units of local currency per USD

GEOGRAPHIC & DEMOGRAPHIC

As we point out below in this epigraph, the connection between this type of variables and the management of sovereign gold reserves if far from obvious and, to our knowledge, is not found in academic literature, except for the inclusion of "population" as an explanatory variable by Oktay et al (2016). The work undertaken in this study, together with the fact that the connection between explanatory geographic & demographic variables and dependent macroeconomic variables is more intuitive and well documented (Henderson, 2000) has led us to not discard the possibility of geographic & demographic variables having an impact on sovereign gold reserves management is worth exploring.

For this initial variable selection exercise, we have chosen 6 variables: population, land area, urban population percentage, fertility rate, life expectancy and geographic region.

Figure 38: Independent variables - geodemographic

Indicator Name	Definition (and construction)	Origin	Source	Coding	Units

Geographic region	World regions as classified by the United Nations	Sourced	United Nations Country Grouping: ST/ESA/STAT/SER.M/49/Rev.3		Asia(1);Europe(2);European Union(3);South America(4);Central America(5);Caribbean(6);Northern America(7);Oceania(8);Middle Africa(9);Western Africa(10);Eastern Africa(11);Northern Africa(12);Southern Africa(13);Middle East(14)
Land area	Land area is a country's total area, excluding area under inland water bodies, national claims to continental shelf, and exclusive economic zones. In most cases the definition of inland water bodies includes major rivers and lakes.	Sourced	Food and Agriculture Organization, electronic files and web site.	AG.LND.TOTL.K2	Km2
Population	Total population is based on the de facto definition of population, which counts all residents regardless of legal status or citizenship. The values shown are midyear estimates.	Sourced	(1) United Nations Population Division. World Population Prospects: 2017 Revision. (2) Census reports and other statistical publications from national statistical offices, (3) Eurostat: Demographic Statistics, (4) United Nations Statistical Division. Population and Vital Statistics Reprot (various years), (5) U.S. Census Bureau: International Database, and (6) Secretariat of the Pacific Community: Statistics and Demography Programme.	SP.POP.TOTL	Number of persons
Urban population %	Urban population refers to people living in urban areas as defined by national statistical offices. The data are collected and smoothed by United Nations Population Division.	Sourced	United Nations Population Division. World Urbanization Prospects: 2018 Revision.	SP.URB.TOTL.IN.ZS	%
Fertility rate	Total fertility rate represents the number of children that would be born to a woman if she were to live to the end of her childbearing years and bear children in accordance with age-specific fertility rates of the specified year.	Sourced	(1) United Nations Population Division. World Population Prospects: 2017 Revision. (2) Census reports and other statistical publications from national statistical offices, (3) Eurostat: Demographic Statistics, (4) United Nations Statistical Division. Population and Vital Statistics Reprot (various years), (5) U.S. Census Bureau: International Database, and (6) Secretariat of the Pacific Community: Statistics and Demography Programme.	SP.DYN.TFRT.IN	Number of children

Life expectancy	Life expectancy at birth indicates the number of years a newborn infant would live if prevailing patterns of mortality at the time of its birth were to stay the same throughout its life.	Sourced	(1) United Nations Population Division. World Population Prospects: 2017 Revision, or derived from male and female life expectancy at birth from sources such as: (2) Census reports and other statistical publications from national statistical offices, (3) Eurostat: Demographic Statistics, (4) United Nations Statistical Division. Population and Vital Statistics Reprot (various years), (5) U.S. Census Bureau: International Database, and (6) Secretariat of the Pacific Community: Statistics and Demography Programme.	SP.DYN.LE00.IN	Years

Although no studies on sovereign gold reserves performance have been found including "**total population"** as an explanatory variable, we believe that the size of the population of a country might have an influence on sovereign gold reserves management in several ways. First, we suspect that a country with a large population will have more resources available (both human and financial) to dedicate to the active management of its sovereign gold reserves. Second, at equal development levels, a larger population will lead to a higher GDP and, in many cases, this larger GDP –again for similar development levels, since developed countries tend to have a higher ratio of gold to total reserves than developing countries (Luanfeng & Qiushi, 2010)– will translate into larger gold reserves, which would arguably call for a larger team and more resources to manage those gold holdings. Third, Lacalle et al. (2015) include this parameter as an explanatory variable in their study of the effect of aid and microfinance on growth. Although the thematic of their work considerable differs from that of this thesis, the methodology has some commonalities and the fact that the authors include this variable in their paper has encouraged us to also incorporate it in our work. Finally, Oktay et al (2016) identify the variable "population" as a determinant of "gold reserves".

Total population is based on the de facto definition of population, which counts all residents regardless of legal status or citizenship (as defined in the sources used). The values shown are midyear estimates. Data has been originally sourced from: (1) United Nations Population Division. World Population Prospects: 2017 Revision. (2) Census reports and other statistical publications from national statistical offices, (3) Eurostat: Demographic Statistics, (4) United Nations Statistical Division. Population and Vital Statistics Reprot (various years), (5) U.S. Census Bureau: International Database, and (6) Secretariat of the Pacific Community: Statistics and Demography Programme. Compiled data has been generously shared by Prof. Neira and Prof. Lacalle-Calderón. The code for this data is: SP.POP.TOTL.

Although the relation between **land area** and sovereign gold reserves performance appears even less obvious than that of population, this variable was selected for its correlation with population. Furthermore, a similar variable is also present in the work of Alouini & Hubert (2018), who study the correlation between country size, economic performance and volatility.

As defined in the sources used, land area is a country's total area, excluding area under inland water bodies, national claims to continental shelf, and exclusive economic zones. In most cases the definition of inland water bodies includes major rivers and lakes. Data has been originally

sourced from the Food and Agriculture Organization, and generously provided by Prof. Neira and Prof. Lacalle-Calderón. The code for this data is: AG.LND.TOTL.K2.

The relation between **urban population** and performance in the management of sovereign gold reserves is also far for intuitive. However, studies exist about the impact of the degree of urban concentration on a number of economic parameters. In this line, Henderson (2000) works with the variable "primacy" (the share of the largest metro area in national urban population) and finds that urban concentration rises with GDP per capita up to around an income of $2,400 to then progressively decline beyond that figure. Henderson also calculates urban concentration levels that are optimal for economic growth and observes that urban primacy has effects on trade and economic openness. Due to the economic repercussions of urban concentration, we have decided to study whether the % of urban population to total country population shows any statistical relation with sovereign gold reserves management outcomes.

As defined in the source used to gather this data, urban population refers to people living in urban areas as defined by national statistical offices. The data are collected and smoothed by United Nations Population Division. Data has been originally sources from the United Nations Population Division. World Urbanization Prospects: 2018 Revision, and generously provided by Prof. Neira and Prof. Lacalle-Carderón. The code for this data is: SP.URB.TOTL.IN.ZS.

Since high human **fertility rates** have been proved to increase poverty levels by retarding economic growth and by skewing the income distribution against the layers of society with a lower level of economic resources (Lipton, 1999), we have decided to include this variable in our initial variable selection for its substantial correlation with development metrics such as the Human Development Index or the Wold Bank Income Groups, which make it relevant as a potential proxy variable, should its use be necessary.

Total fertility rate is defined in our sources as representing the number of children that would be born to a woman if she were to live to the end of her childbearing years and bear children in accordance with age-specific fertility rates of the specified year. Data has originally been sourced from: (1) United Nations Population Division. World Population Prospects: 2017 Revision. (2) Census reports and other statistical publications from national statistical offices, (3) Eurostat: Demographic Statistics, (4) United Nations Statistical Division. Population and Vital Statistics Reprot (various years), (5) U.S. Census Bureau: International Database, and (6) Secretariat of the Pacific Community: Statistics and Demography Programme. Compiled data has been generously shared by Prof. Neira and Prof. Lacalle-Calderón. The code for this data is: SP.DYN.TFRT.IN.

Abundant literature exists on the effects of **life expectancy** on population, economic performance in general and economic growth in particular. Evidence on the topic is contradictory, though. Authors like Acemoglu & Johnson (2007) find that a 1% increase in life expectancy leads to an increase in population that ranges from 1.7 to 2% but also observe that the repercussion of life expectancy alterations on total GDP is significantly smaller (and therefore cannot conclude that GDP per capita grows with life expectancy). For other authors, like Cervellati & Sunde (2011), the relation between life expectancy and GDP per capita is not statistically significant before the onset of demographic transitions (i.e. improvements in health conditions leading to a marked increase in life expectancy). Once the tipping point is reached,

the relation becomes strongly positive. Following this latter current of though, we have opted for including life expectancy in our initial variable selection. Furthermore, as it is the case with the variable "fertility rate", "life expectancy" displays a considerable correlation with other development metrics, which makes it have a potential for use as a proxy variable, should it be necessary.

The variable, life expectancy at birth, is defined in the sources used to gather the data as the number of years a newborn infant would live if prevailing patterns of mortality at the time of its birth were to stay the same throughout its life. Data has been sourced from the following sources: (1) United Nations Population Division. World Population Prospects: 2017 Revision, or derived from male and female life expectancy at birth from sources such as: (2) Census reports and other statistical publications from national statistical offices, (3) Eurostat: Demographic Statistics, (4) United Nations Statistical Division. Population and Vital Statistics Reprot (various years), (5) U.S. Census Bureau: International Database, and (6) Secretariat of the Pacific Community: Statistics and Demography Programme. Compiled data has been generously provided by Prof. Neira and Prof. Lacalle-Calderón. The code for this data is: SP.DYN.LE00.IN.

GEOGRAPHIC REGION

Although the connection between the belonging to a geographic region and superior/inferior performance in the management of sovereign gold reserves seems far-fetched and all but obvious, we have decided to include this variable due to the exploratory nature of this part of the research. To our knowledge, there is no academic literature on geographic regions and gold management performance but there is some literature which indicates that the level of gold holdings tends to be different in countries with different economic characteristics (Gopalakrishnan & Mohapatra, 2018b). Since most geographic regions tend to present a differentiated level of economic development –although not homogeneous in all the countries belonging to a particular geographic region–, we have decided to test the existence or lack of statistical relation between this independent variable and the dependent variables in the study.

The variable groups the countries in the sample according to the United Nations Country Grouping. This classification uses 14 country categories: Asia, Europe, European Union, South America, Central America, The Caribbean, Northern America, Oceania, Middle Africa, Western Africa, Eastern Africa, Northern Africa, Southern Africa and Middle East.

GOLD RELATED

Figure 39: Independent variables - gold related

Indicator Name	Definition (and construction)	Origin	Source	Coding	Units
Gold reserves (current USD)	Total reserves (including gold) minus total	Calculated	Gold reserves: IMF International Financial Statistics ("total	FI.RES.TOTL.CD; FI.RES.XGLD.CD	USD (current)

	reserves (excluding gold)		reserves (including gold)" - "total reserves (minus gold)"		
Gold price (constant Q3 2014 USD)	Average yearly gold price in constant end of Q3 2014 USD	Calculated	World Gold Council using end-of-quarter London PM fix gold price. CPI US: Federal Reserve Bank of St. Louis	LN PM FIX	USD (constant end of Q3 2014)
Gold price (current USD)	Average yearly gold price in current USD	Calculated	World Gold Council using end-of-quarter London PM fix gold price	LN PM FIX; CPALTT01USQ	USD (current)

GOVERNANCE

Figure 40: Independent variables - governance

Indicator Name	Definition (and construction)	Origin	Source	Coding	Units
Democracy index	Polity Democracy Index. The Polity Democracy Index is calculated substracting the "autocracy" values from the "democracy" values	Sourced	Integrated Network for Societal Conflict Research (INSCR), Polity IV dataset	DEMOC	0 to 10 (max)
Rule of law	Rule of Law captures perceptions of the extent to which agents have confidence in and abide by the rules of society, and in particular the quality of contract enforcement, property rights, the police, and the courts, as well as the likelihood of crime and violence. Estimate gives the country's score on the aggregate indicator, in units of a standard normal distribution, i.e. ranging from approximately -2.5 to 2.5.	Sourced	GDP: World Bank World Development Indicators	RL.EST	-2.5 to 2.5 (max)
Control of corruption	Control of Corruption captures perceptions of the extent to which public power is exercised for private gain, including both petty and grand forms of corruption, as well as "capture" of the state by elites and private interests. Estimate gives the country's score on the aggregate indicator, in units of a standard normal distribution, i.e. ranging from approximately -2.5 to 2.5.	Sourced	GDP: World Bank World Development Indicators.	CC.EST	-2.5 to 2.5 (max)
Political constraint index	The Political Constraint Index Dataset (POLCON) was produced by Witold J. Henisz, and is an endeavour to measure political constraint, that is, to identify underlying political structures and measure their ability to support credible policy commitments.	Sourced	Wharton, University of Pennsylvania	XCONSTFROMPOLITY	1 to 7 (max)

Building on the work undertaken by Acemoglu et al. (2008), Burnside & Dollar (2000), Kaufman et al. (2000) and Lacalle et al. (2015), in which statistical relations are found between variables measuring governance and economic and development parameters, we have decided to include four governance related variables in our study and explore whether they hold any meaningful statistical relation with the management and financial performance of sovereign gold holdings.

The independent variables studied will be democracy index, rule of law, control of corruption and political constraint index.

Acemoglu et al. (2008), in one of the paramount academic studies on the statistical association between income and democracy, use the two most widely accepted indices when it comes to assessing freedom and democracy in a country: the Freedom House Index and the Polity **Democracy Index**. The Polity Democracy Index is calculated subtracting the "autocracy" values from the "democracy" values, to make it more comprehensive.

In our study, we have chosen to use the "democracy" value referred above even understanding that this metric is less comprehensive than the polity metric. The reason for this choice is that the variables "rule of law", "control of corruption" and –particularly– "political constraint" already incorporate dimensions included in the polity index. In this manner, we are able to explore with a higher level of granularity, the influence of these four independent variables on our dependent variables.

Data have been sourced from the Center for Systemic Peace and Societal-Systems Research Inc and the code for the variable chosen is "DEMOC". The values for this variable range from 0 to 10, with values from 6 to 10 corresponding to democracies and 0 to 5 corresponding to more autocratic regimes.

"**Rule of law**" is used in Lacalle et al. (2015). We have chosen to use this variable in a non-logarithmic form, following the methodology of these authors.

Rule of Law captures perceptions of the extent to which agents have confidence in and abide by the rules of society, and in particular the quality of contract enforcement, property rights, the police, and the courts, as well as the likelihood of crime and violence. Estimate gives the country's score on the aggregate indicator, in units of a standard normal distribution, i.e. ranging from approximately -2.5 to 2.5. (World Bank, 2018).

This variable has been sourced from the World Bank World Development Indicators and its identifier is the code RL.EST.

"**Control of corruption**" is also used in Lacalle et al. (2015). Here too, we have chosen to use this variable in a non-logarithmic form, following the methodology of these authors.

Control of Corruption captures perceptions of the extent to which public power is exercised for private gain, including both petty and grand forms of corruption, as well as "capture" of the state by elites and private interests. Estimate gives the country's score on the aggregate indicator, in units of a standard normal distribution, i.e. ranging from approximately -2.5 to 2.5 (World Bank, 2018).

This metric has been sourced from the World Bank World Development Indicators and its identifier is the code CC.EST.

In most countries showing high scores in the variable "democracy index", a sufficient separation of powers exists to guarantee that decisions over gold transactions will be taken primarily by central banks. This is not necessarily the case in countries scoring lower in that variable. In these countries, decisions on gold trading may be taken or initiated by politicians

who do not belong to central banks and may not have the necessary knowledge to optimally time gold transactions. The logical consequence would be that these countries would obtain a lower return on their gold holdings. We have felt that it was important to include in this study a variable that measures particularly that dimension.

We have built on the work of Acemoglu et al. (2008), who use this variable in their research, and have used the **Political Constraint Index** Dataset (POLCON). This dataset is produced by Witold J. Henisz and attempts to measure political constraint by identifying underlying political structures and their ability to support credible policy commitments. Data have been sourced from the University of Pennsylvania at Wharton, and the code for this metric is XCONSTFROMPOLITY.

GOVERNMENT FINANCE

Figure 41: Independent variables - government finance

Indicator Name	Definition (and construction)	Origin	Source	Coding	Units
Net investment in nonfinancial assets (% of GDP)	Net investment in government nonfinancial assets includes fixed assets, inventories, valuables, and nonproduced assets. Nonfinancial assets are stores of value and provide benefits either through their use in the production of goods and services or in the form of property income and holding gains. Net investment in nonfinancial assets also includes consumption of fixed capital.	Sourced	International Monetary Fund, Government Finance Statistics Yearbook and data files.	GC.NFN.TOTL.GD.ZS	%
Govern. final consumption (% GDP)	General government final consumption expenditure (formerly general government consumption) includes all government current expenditures for purchases of goods and services (including compensation of employees). It also includes most expenditures on national defense and security, but excludes government military expenditures that are part of government capital formation.	Sourced	World Bank national accounts data, and OECD National Accounts data files.	NE.CON.GOVT.ZS	%
Tax revenue (% GDP)	Tax revenue refers to compulsory transfers to the central government for public purposes. Certain compulsory transfers such as fines, penalties, and most social security contributions are excluded. Refunds and corrections of erroneously collected tax revenue are treated as negative revenue.	Sourced	International Monetary Fund, Government Finance Statistics Yearbook and data files, and World Bank and OECD GDP estimates.	GC.TAX.TOTL.GD.ZS	%
Education expense (% GDP)	General government expenditure on education (current, capital, and transfers) is expressed as a percentage of GDP. It includes expenditure funded by transfers from international sources to government. General government usually refers to local, regional and central governments.	Sourced	United Nations Educational, Scientific, and Cultural Organization (UNESCO) Institute for Statistics.	SE.XPD.TOTL.GD.ZS	%

INCOME

Figure 42: Independent variables - income

Indicator Name	Definition (and construction)	Origin	Source	Coding	Units
GDP nominal	GDP (current US$)	Sourced	World Bank World Development Indicators	NY.GDP.MKTP.CD	USD (current)
GDP growth (%)	Annual percentage growth rate of GDP at market prices based on constant local currency. Aggregates are based on constant 2010 U.S. dollars. GDP is the sum of gross value added by all resident producers in the economy plus any product taxes and minus any subsidies not included in the value of the products. It is calculated without making deductions for depreciation of fabricated assets or for depletion and degradation of natural resources.	Sourced	World Bank national accounts data, and OECD National Accounts data files.	NY.GDP.MKTP.KD.ZG	%
GDP per capita - nominal	Gross domestic product (in current USD) divided by population	Calculated	GDP: World Bank World Development Indicators. Population: (1) United Nations Population Division. World Population Prospects: 2017 Revision. (2) Census reports and other statistical publications from national statistical offices, (3) Eurostat: Demographic Statistics, (4) United Nations Statistical Division. Population and Vital Statistics Reprot (various years), (5) U.S. Census Bureau: International Database, and (6) Secretariat of the Pacific Community: Statistics and Demography Programme.	NY.GDP.MKTP.CD; SP.POP.TOTL	USD (current)
GDP per capita - PPP	GDP per capita, Purchasing Power Parity (current international USD)	Sourced	World Bank World Development Indicators	NY.GDP.PCAP.PP.CD	USD (current international PPP)
GDP per capita - constant dollars	GDP per capita, PPP (constant 2011 international USD). GDP per capita based on purchasing power parity (PPP). PPP GDP is gross domestic product converted to international dollars using purchasing power parity rates. An international dollar has the same purchasing power over GDP as the U.S. dollar has in the United States. GDP at purchaser's prices is the sum of gross value added by all resident producers in the economy plus any product taxes and minus any subsidies not included in the value of the products. It is calculated without making deductions for depreciation of fabricated assets or for depletion and degradation of natural resources. Data are in constant 2011 international dollars.	Sourced	World Bank, International Comparison Program database.	NY.GDP.PCAP.PP.KD	USD (constant 2011 international PPP)

Income group	For the current 2019 fiscal year, low-income economies are defined as those with a GNI per capita, calculated using the World Bank Atlas method, of $995 or less in 2017; lower middle-income economies are those with a GNI per capita between $996 and $3,895; upper middle-income economies are those with a GNI per capita between $3,896 and $12,055; high-income economies are those with a GNI per capita of $12,056 or more. Those thresholds vary every year.	Sourced	World Bank Classification - country and lending groups		Low (LI:1); Lower middle (LM:2); Upper middle (UM:3); High (H:4)

INEQUALITY

Figure 43: Independent variables - inequality

Indicator Name	Definition (and construction)	Origin	Source	Coding	Units
GINI Index	Gini index measures the extent to which the distribution of income (or, in some cases, consumption expenditure) among individuals or households within an economy deviates from a perfectly equal distribution. A Lorenz curve plots the cumulative percentages of total income received against the cumulative number of recipients, starting with the poorest individual or household. The Gini index measures the area between the Lorenz curve and a hypothetical line of absolute equality, expressed as a percentage of the maximum area under the line. Thus a Gini index of 0 represents perfect equality, while an index of 100 implies perfect inequality.	Sourced	World Bank, Development Research Group. Data are based on primary household survey data obtained from government statistical agencies and World Bank country departments. For more information and methodology, please see PovcalNet (iresearch.worldbank.org/PovcalNet/index.htm).	SI.POV.GINI	0 to 100 (max)

INFLATION

Figure 44: Independent variables – inflation

Indicator Name	Definition (and construction)	Origin	Source	Coding	Units

Inflation	Inflation as measured by the consumer price index reflects the annual percentage change in the cost to the average consumer of acquiring a basket of goods and services that may be fixed or changed at specified intervals, such as yearly. The Laspeyres formula is generally used.	Sourced	International Monetary Fund, International Financial Statistics and data files.	FP.CPI.TOTL.ZG	%
Inflation volatility	Increase/decrease in volatility taking previous year as base year	Calculated	Inflation: World Bank World Development Indicators	FP.CPI.TOTL.ZG	%

OPENNESS

Figure 45: Independent variables - openness

Indicator Name	Definition (and construction)	Origin	Source	Coding	Units
Capital account openness	The Chinn-Ito index (KAOPEN) is an index measuring a country's degree of capital account openness. The index was initially introduced in Chinn and Ito (Journal of Development Economics, 2006). KAOPEN is based on the binary dummy variables that codify the tabulation of restrictions on cross-border financial transactions reported in the IMF's Annual Report on Exchange Arrangements and Exchange Restrictions (AREAER).	Sourced	Portland State University	KA_OPEN	0 to 1 (max)
Trade openness	Trade (% of GDP). Trade is the sum of exports and imports of goods and services measured as a share of gross domestic product.	Sourced	World Bank national accounts data, and OECD National Accounts data files.	NE.TRD.GNFS.ZS	%
Current account balance	Current account balance is the sum of net exports of goods and services, net primary income, and net secondary income.	Sourced	International Monetary Fund, Balance of Payments Statistics Yearbook and data files, and World Bank and OECD GDP estimates.	BN.CAB.XOKA.GD.ZS	%
Foreign direct investment (% GDP)	Foreign direct investment are the net inflows of investment to acquire a lasting management interest (10 percent or more of voting stock) in an enterprise operating in an economy other than that of the investor. It is the sum of equity capital, reinvestment of earnings, other long-term capital, and short-term capital as shown in the balance of payments. This series shows net inflows (new investment inflows less disinvestment) in the reporting economy from foreign investors, and is divided by GDP.	Sourced	International Monetary Fund, International Financial Statistics and Balance of Payments databases, World Bank, International Debt Statistics, and World Bank and OECD GDP estimates.	BX.KLT.DINV.WD.GD.ZS	%

RISK & LIQUIDITY

Figure 46: Independent variables – risk & liquidity

Indicator Name	Definition (and construction)	Origin	Source	Coding	Units
Global liquidity measure (credit % GDP)	The BIS uses the term "global liquidity" to refer to the ease of financing in global financial markets. Credit is among the key indicators of global liquidity and the focus of the global liquidity indicators estimated by the BIS. These indicators constitute part of the BIS's support for the G20's activities.	Sourced	National data; BIS credit to the non-financial sector; BIS locational banking statistics; BIS calculations.	Total claims on private non-financial sector – Cross border claims	% GDP
TED rate	Series is calculated as the spread between 3-Month LIBOR based on US dollars (https://fred.stlouisfed.org/series/USD3MTD156N) and 3-Month Treasury Bill (https://fred.stlouisfed.org/series/DTB3). The series is lagged by one week because the LIBOR series is lagged by one week due to an agreement with the source.	Sourced	Federal Reserve Bank of St. Louis	TEDRATE	%
VIX	Index of implied volatility of S&P 500 options. VIX is a measure of global risk perception.	Calculated	Chicago Board Options Exchange (CBOE)	VIX_Open	USD (current)

3.3. Independent variables - Final selection

Once the initial data gathering was completed, and due the difficulty of using such a large number of variables to model the behaviour of our dependent variables, we have narrowed down the selection through the following process:

- Analysis of which variables have been found to be statistically significant gold reserves determinants by authors covered in the Theoretical Framework chapter. Search in our gathered database for each one of those variables –or a proxy variable– and, should they exist in our database, include them in our final variable selection. The variables selected, and included in our model equation, will be the following:

    - Trade related: trade openness, current account balance;
    - Financial: foreign direct investment (% GDP), capital account openness;
    - Macroeconomic: GDP growth, inflation, inflation volatility;
    - Exchange rate related: US exchange local currency.

    The variables in the list above, whose classification follows the typologies used in the matrix "Determinants of gold reserves levels – a summary" (figure 29) are grouped under COUNTRY in the model equations. All of them will be included in the model simultaneously.

  - Gold related: gold price (current USD). Included under GOLD in the model equations.
  - Financial – Global: VIX is included to measure global risk and global liquidity measure (credit % GDP) to measure liquidity. The variable "TED rate" is not included in the model equation but has been selected as a proxy variable for "global liquidity measure (credit % GDP)" should it be necessary in robustness tests. These variables, despite being of a financial nature and being included under that typology in the Theoretical Framework matrix, will be included in a different grouping –GLOBAL– in the model equations. We proceed in this manner because these variables, unlike others in financial typology, do not vary by country.

- Since the main goal of our work is to understand whether development acts as a determinant of the optimality of sovereign reserves gold management strategies, we add to the determinants of gold reserves identified by the authors covered in the Theoretical Framework, a number of variables that measure in a broad sense to what extent a country can be considered developed or developing:

  - Governance related: democracy index, rule of law, control of corruption, political constraint index;
  - Income related: GDP per capita nominal, income group; and
  - Development and aid related: human development index and official development aid as a % of GDP.

  In this list of variables, grouped under DEV in the model equations, only 1 per sub-group will be included in the equation (the one with the highest correlation coefficient) to avoid collinearity. Other variables in the sub-group will be used in robustness testing of the model.

- Finally, we include the variable "gold reserves (current USD)" to factor in the potential effects of volume of assets under management (gold in this case) and performance (and/or management strategies). We base this variable inclusion choice in the research undertaken by Dyck & Pomorski (2011), who document the existence of higher returns in larger investment funds. The authors attribute these better yields to the creation of economies of scale and to the possibility of access to asset classes generating higher returns. Although the access to a larger pool or investment instruments for larger portfolios may not be a fully applicable justification for increased returns in the case of sovereign gold reserves management, we believe that economies of scale and access to highly qualified reserve managers may play a role in sovereign gold reserves management and performance. This variable will be designated with GOLDRES in our model equations.

3.4. Methodology

MODEL

From the four multi-country studies on the determinants of gold reserves covered in the Background Literature Review and the Theoretical Framework chapters (Ghosh, 2016b; Gopalakrishnan & Mohapatra, 2018a, 2018b; Oktay et al., 2016), Oktay et al. use a fixed effects dynamic panel data (DPD) methodology; Ghosh (2016b) uses two methodologies –fixed effects DPD and systems generalized method of moments (SGMM) and Gopalakrishnan & Mohapatra use a difference generalized method of moments (DGMM) estimator and a SGMM estimator in their research on risk (2018a) and a SGMM in their study on liquidity (2018b).

Based on specific academic literature referred above, this study will use a panel difference GMM estimator. Since the equations include a dependent variable lagged by one and two years, there is a potential for bias if an ordinary least square model were to be used (explained below), which makes prudent to use a more complex GMM estimator methodology (see statistical treatment section for justification of this choice).

The estimation equations for the determinants of sovereign gold reserves performance and management (gold reserves levels) will be the following:

$$\mathbf{A_{it}=\alpha A_{it-1}+\alpha' A_{it-2}+\beta DEV_{it}+\gamma COUNTRY_{it}+\delta GOLDRES_{it}+\varepsilon GOLD_t+\zeta GLOBAL_t+\mu_i+\omega_{it}}$$

where A is annual gold management performance, DEV is a vector of development factors at the country-level (income related, governance related and development and aid related), COUNTRY is a vector of macroeconomic, trade, financial and exchange rate variables at the country-level, GOLDRES measures value of gold reserves in current USD, GOLD indicates average gold price per year, GLOBAL is a vector of global factors measuring liquidity and risk, μ_i is a country-specific intercept, and ω_{it} is an i.i.d error term.

This equation presents three alternatives:

$$B_{it}=\alpha B_{it-1}+\alpha' B_{it-2}+\beta DEV_{it}+\gamma COUNTRY_{it}+\delta GOLDRES_{it}+\varepsilon GOLD_t+\zeta GLOBAL_t+\mu_i+\omega_{it}$$

where B is gold reserves to total reserves,

$$C_{it}=\alpha C_{it-1}+\alpha' C_{it-2}+\beta DEV_{it}+\gamma COUNTRY_{it}+\delta GOLDRES_{it}+\varepsilon GOLD_t+\zeta GLOBAL_t+\mu_i+\omega_{it}$$

where C is gold reserves per capita, and

$$D_{it}=\alpha D_{it-1}+\alpha' D_{it-2}+\beta DEV_{it}+\gamma COUNTRY_{it}+\delta GOLDRES_{it}+\varepsilon GOLD_t+\zeta GLOBAL_t+\mu_i+\omega_{it}$$

where D is gold reserves to GDP per capita,

For the modelization, we have used a dynamic panel 2-step GMM methodology. Two-step methodology has been chosen as it is widely accepted that the 2-step methodology yields more efficient results than the 1-step methodology, and the power of the associated tests (Hwang & Sun, 2015) is higher. The main difference between both methodologies is that the former requires the calculation of a weighting matrix. The number of lags of the dependent variable used as regressors in each GMM model has been limited to 2, to avoid having an excessive number of instruments and loosing specificity. The panels are unbalanced. In each equation, the instruments used are only the 1-year and 2-year lagged dependent variable. The 1 and 2-year lags are included to test whether past performance may affect current performance. For

this purpose, it has been considered that going beyond the 1-year lag typically present in the academic literature on the topic would enrich the assessment. The transformation methodology selected is the first difference transformation of each variable in the regression. This is done to remove cross-section fixed effects (unobserved individual effects). First difference methodology has been preferred to the orthogonal deviation approach, despite authors such as Hayakawa (2009) indicating that the performance of GMM models transformed by the latter is superior to those transformed by the former. We have based this decision on the empirical testing of both transformation methods in our models. In our case, performance of first difference was significantly better in terms of residuals (see appendix). As a 2-step GMM, 2 iterations are used. In this process, weights are updated once. The weighting matrix has been constructed using a white period methodology. In this approach, innovations present a time series correlation structure that varies by cross-section, instead of having the same correlation structure for all cross-sections (period SUR methodology). As recommended by Wooldridge (2010), the modelization follows a robust methodology to compute standard errors (white period weights from final iteration are used).

ESTIMATOR (GMM) – THEORETICAL FRAMEWORK

Many economic relations have a dynamic nature that can be grasped through the use of panel data. That dynamic component is normally included in the adjustment processes by the presence of a delayed endogenous variable which acts an additional explanatory variable. These are known as dynamic models for panel data (DPD) (Wooldridge, 2010).

In a generic form, this can be expressed mathematically as

$$y_{it} = y_{it-1} + x_{it} + \upsilon_{it}, \quad \upsilon_{it} = \mu_i + \varepsilon_{it}$$

The main problem posed by the inclusion of this delayed endogenous variable is that the ordinary least squares (OLS) estimation produces biased and inconsistent estimates, even if the random perturbations do not have serial correlation. This is commonly known as Nickell bias (Nickell, 1981).

Intuitively, since y_{it} is a function of μ_i then y_{it-1} is too. Consequently, this regressor would be correlated with the error term.

On the other hand, if a "within" estimator is used, then the "fixed effects" are eliminated by the transformation and, a priori, one might think that the previous problem is solved. However, a correlation still exists.

As it happened in the discussion for OLS, y_{it} contains by construction y_{it-1} and therefore it will be correlated with y_{it-1}. This causes fixed effects estimator to be biased and inconsistent (for finite and small T). Something similar occurs with the generalized least squares (GLS) estimator (Quantitative Micro Software, 2009).

If we transform the model into a GLS equation and apply fist differences to the model, these instruments will not be correlated with $y_{it} - y_{it-1}$ as long as the original error does not present serial correlation.

In this manner, we are able to obtain estimators using consistent instrumental variables. However, these estimators are still not efficient because they do not take into account all the available moments and because they do not take into account the structure in the differences of the residual perturbations.

Arellano & Bond (1991) propose a GMM estimator to correct these deficiencies. The model introduced by Arellano & Bond can be considered a generalization of the one developed by Anderson & Hsiao (1981).

It is possible to calculate a GLS estimator on this modified model and obtain a "single-step" estimator (Arellano & Bond, 1991). A more detailed description of how this estimator is calculated can be consulted in Baltagi (2008).

Under this procedure, we assume that errors are homoscedastic. Should this not be the case, a more efficient estimation would be obtained substituting in the matrix of variances and covariances of the estimators the value $\Delta\varepsilon_i$ by the value of the residuals in differences obtained in the estimation of the first stage. This would be the "two-step" generalized method of moments (GMM) Arellano & Bond estimator.

Arellano & Bond built upon the work of Anderson & Hsiao (1981, 1982) to develop the GMM approach. Anderson & Hsiao introduced the idea of using additional lags (level or differences) of the dependent variable as instruments after removing non-observable heterogeneity by differentiating the data. The novelty that Arellano & Bond introduced was the possibility of using many more available instruments in the sample. They made that possible through the identification of how many lags of the dependent variable and the predetermined variables were valid instruments and the determination of how to combine those lag levels with first differences of the strictly exogenous variables in a large instrument matrix.

Arellano & Bond´s methodology allows for the generation of a large number of instruments, as all the previous lags can be used as individual instruments. If the number of periods in the original dataset is not small, it is necessary to limit the number of lags, as otherwise the number of instruments would become excessively large (Wooldridge, 2010).

The GMM estimator methodology is built on the idea that a more basic instrumental variables approach does not optimize the information available in the sample, as it does not make full use of it. Therefore, Arellano & Bond (1991) believe that more efficient estimates can be obtained using the GMM methodology. This is widely accepted at the moment.

In addition to GMM being the estimator of choice in the academic literature studying the ration of gold reserves to overall reserves, we have selected this methodology because is particularly appropriate for data sets with a small T (15 years in this case) and large N (100 countries, in our case), in which the values of the dependent variable are influenced by the past realisations of that dependent variable, where the independent variables are not totally exogenous.

Furthermore, GMM methodology has a higher tolerance level and controls better for unobserved heterogeneity, heteroskedasticity and autocorrelation.

RESEARCH PROBLEMATICS/METHODOLOGICAL CAVEATS

Variables compiled in our initial selection of variables were denominated in different units. The fact that variables expressed in constant USD were indexed to different base years made us decide to have all variables denominated in USD expressed in current (nominal) USD in our final selection of variables. This decision is consistent with the work of several authors working in gold reserves demand (Gopalakrishnan & Mohapatra, 2018b). Furthermore, the inclusion of current USD values allows for the inclusion of "inflation" as an explanatory variable.

UNIQUE METHODOLOGICAL CONTRIBUTIONS/INNOVATIONS

The variable "annual gold management performance", a proprietary variable created by the author, represents an innovation because it is which allows the measurement of the extent to which a country has benefitted by the optimality of the timing and sizing of sovereign gold reserves transactions during a particular year.

CONCLUSIONS

Building on the linear regression used in the previous section to study period returns (2000-2014), in this section of the thesis a dynamic panel study using a DGMM estimator is used to test hypothesis 1 and 2 for a sample of 100 countries.

Initially, a large database of 43 variables was built so that it could be used for this research project and for future ones. Once the initial data gathering was completed, a variable selection was conducted, choosing the variables found to be statistically significant gold reserves determinants by authors covered in the Theoretical Framework and also included in our database –or a proxy variable–.

The estimation equation for the determinants of sovereign gold reserves financial performance is:

$$A_{it}=\alpha A_{it-1}+\alpha' A_{it-2}+\beta DEV_{it}+\gamma COUNTRY_{it}+\delta GOLDRES_{it}+\varepsilon GOLD_{t}+\zeta GLOBAL_{t}+\mu_i+\omega_{it}$$

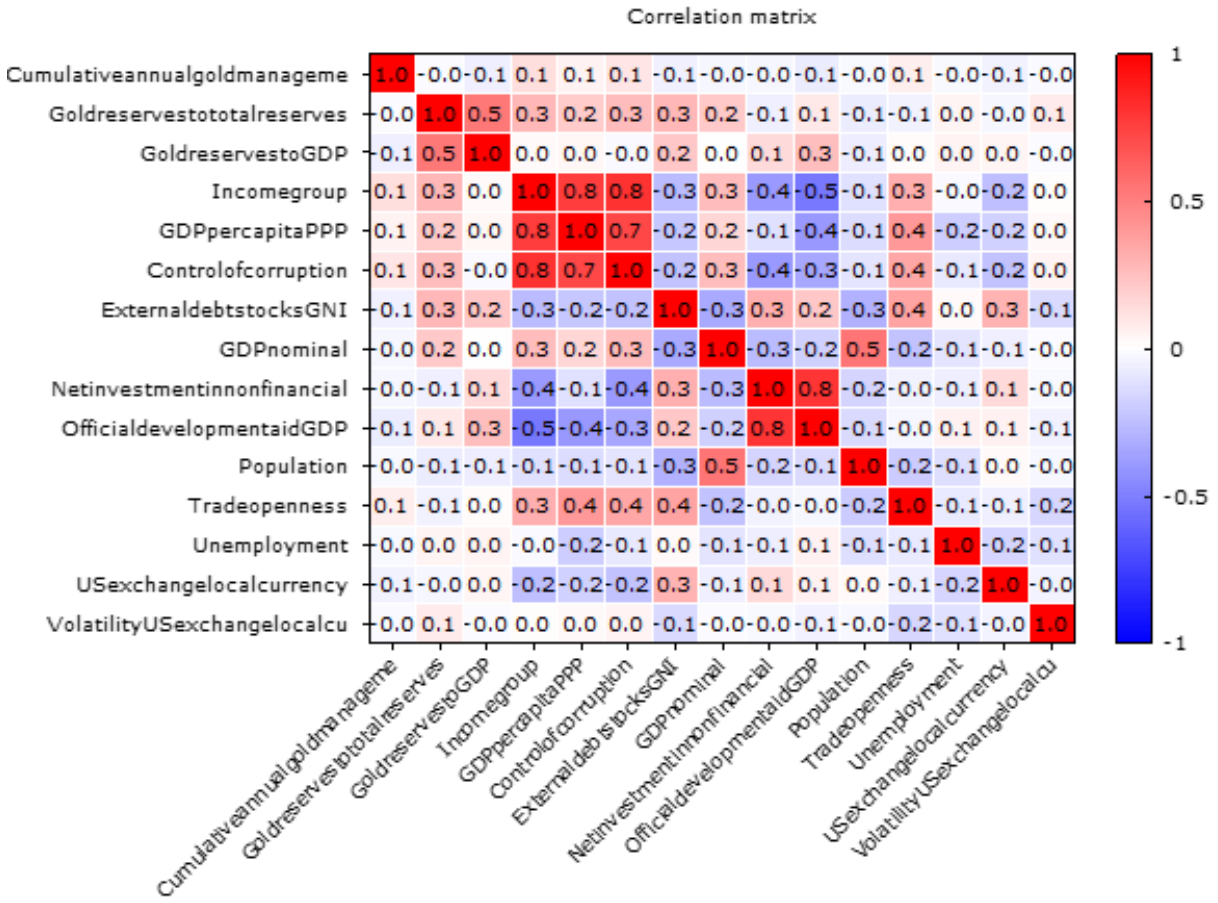
where A is annual gold management performance, DEV is a vector of development factors at the country-level (income related, governance related and development and aid related), COUNTRY is a vector of macroeconomic, trade, financial and exchange rate variables at the

country-level, GOLDRES measures value of gold reserves in current USD, GOLD indicates average gold price per year, GLOBAL is a vector of global factors measuring liquidity and risk, μ_i is a country-specific intercept, and ω_{it} is an i.i.d error term.

CHAPTER 4: DESCRIPTIVE ANALYSIS

In this chapter, we present a number of graphs, tables and figures which will help interpret the data in this study.

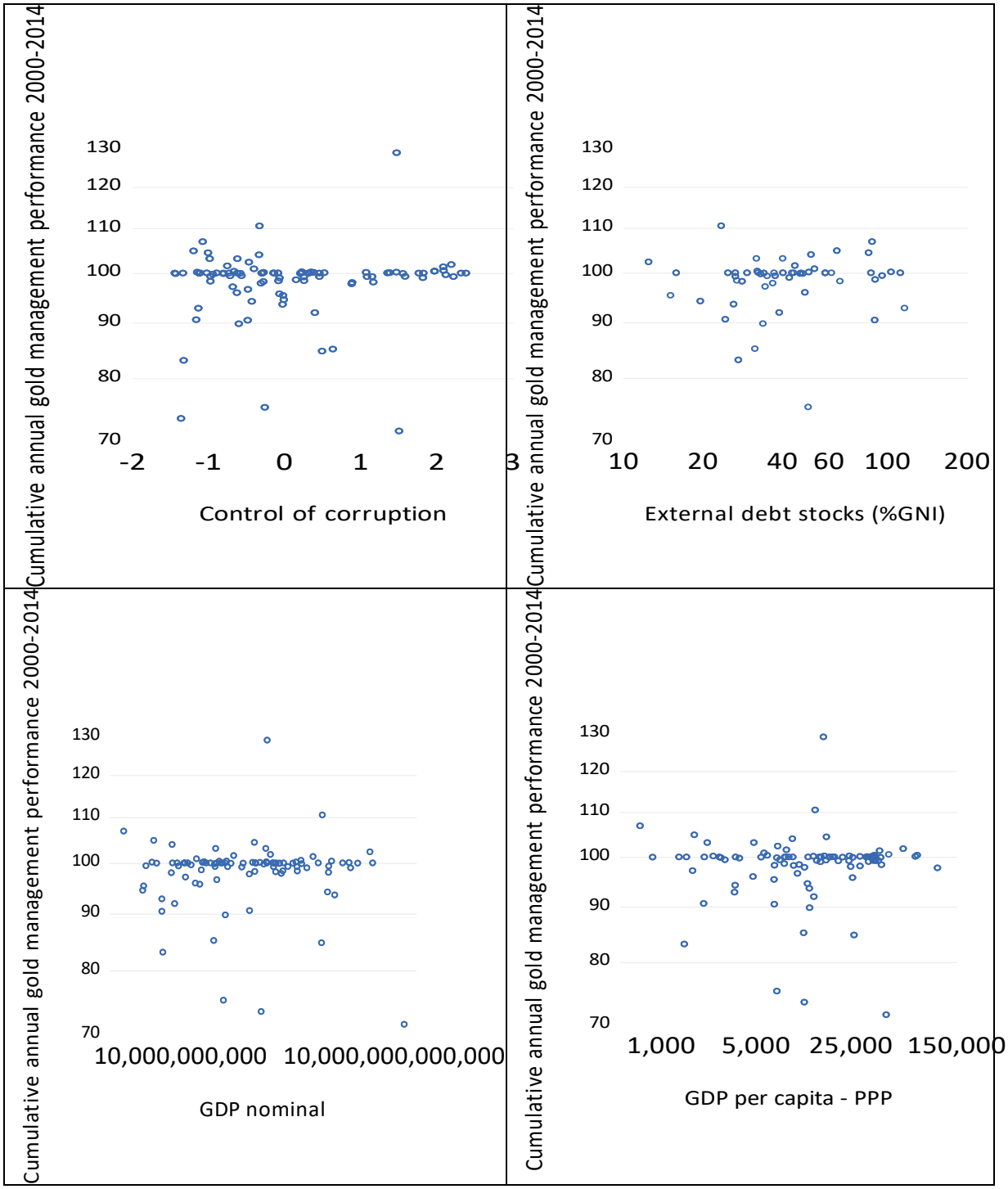
Figure 47: Correlation matrix for whole period 2000 - 2014 (selected variables)

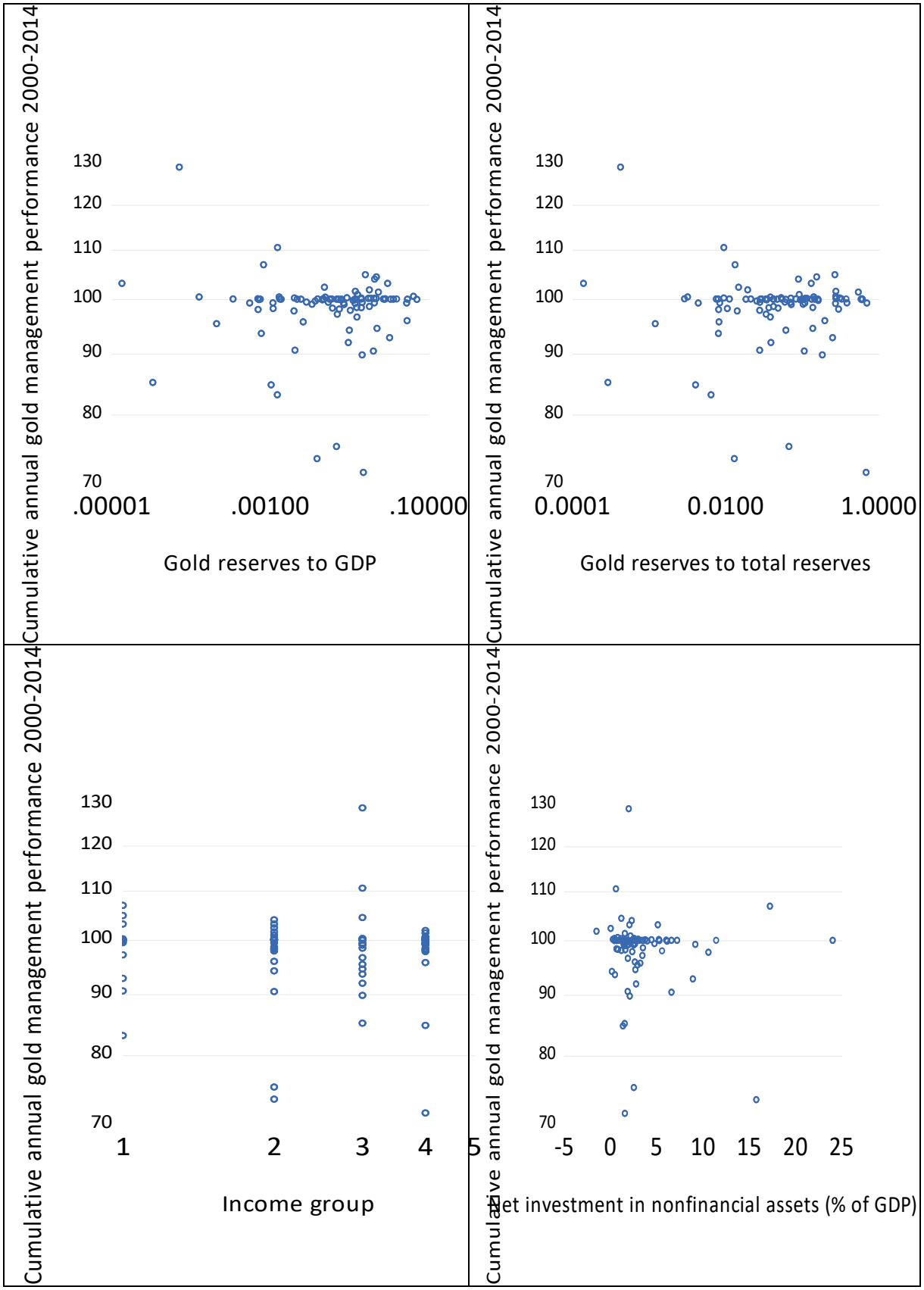


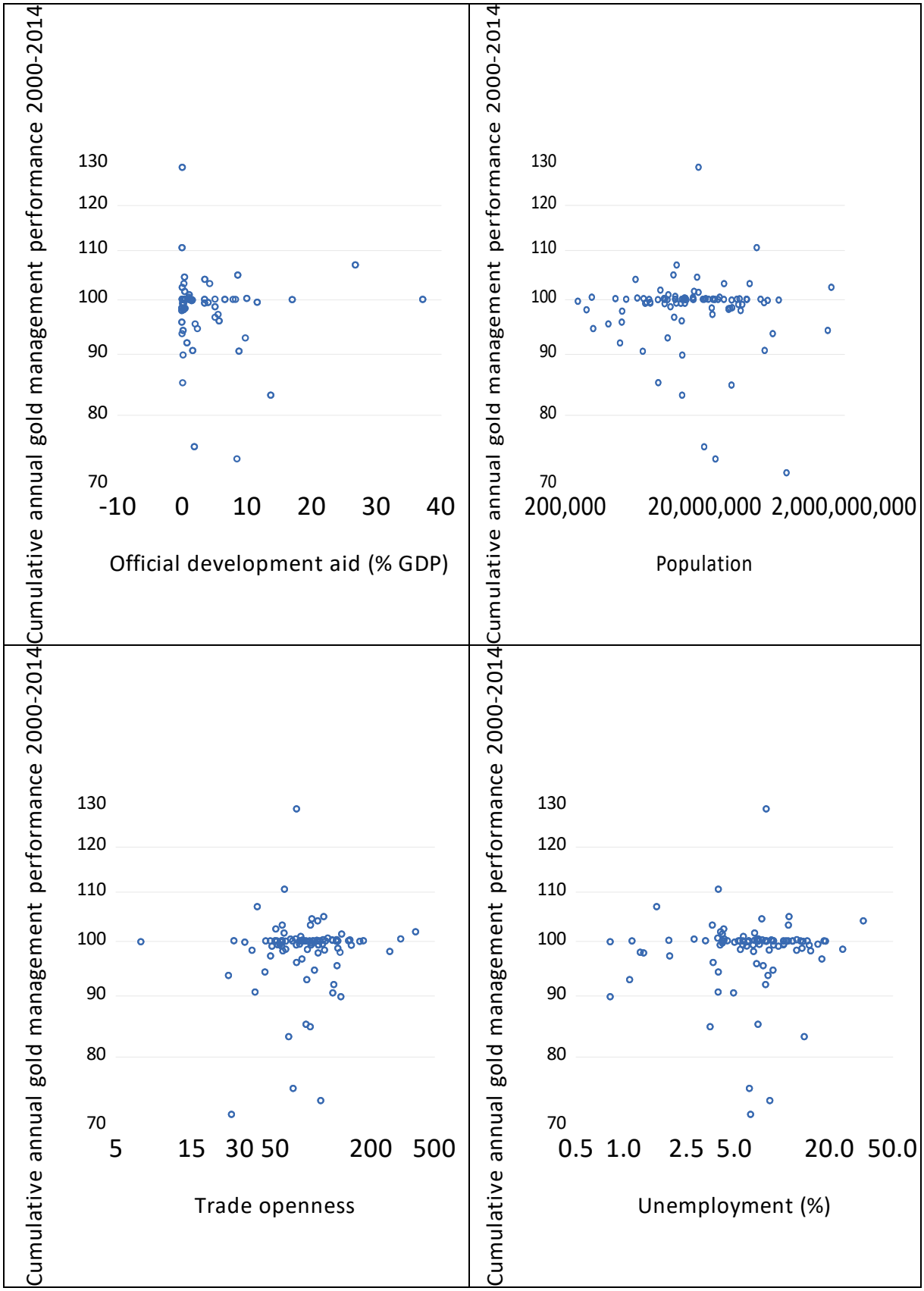
This table presents the correlation coefficients between some of the most relevant variables in the study for the 100 countries that constitute our sample. The first variable, "cumulative gold management" has been calculated adding the values of the variable "annual gold management performance" for the years 2000-2014 and adding the result to 100 (to obtain a 100-base result that can be easily understood in the context of financial performance metrics). All other variables are a calculated average of their yearly values.

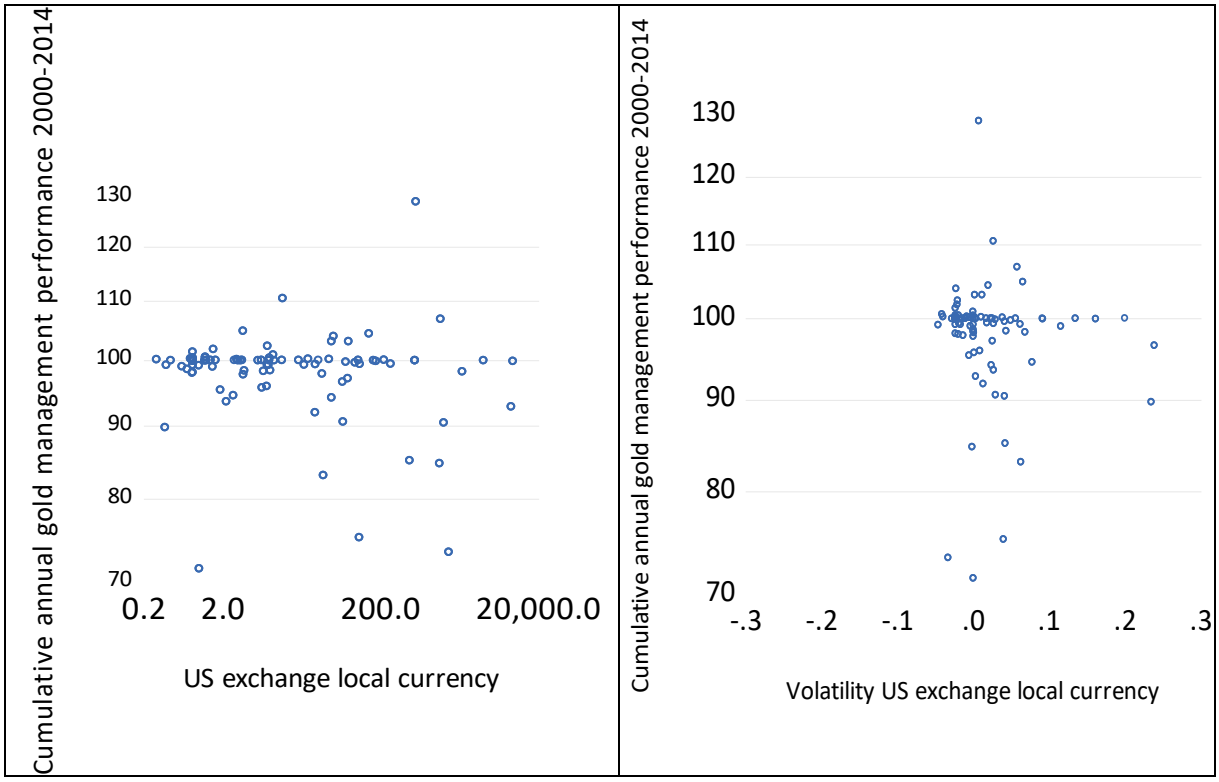
The following scatterplots supplement the correlation matrix presented above, and will give the reader a better representation of the statistical association between cumulative performance (dependent variable) and selected independent variables.

Figure 48: Cumulative gold management performance scatterplot graphs



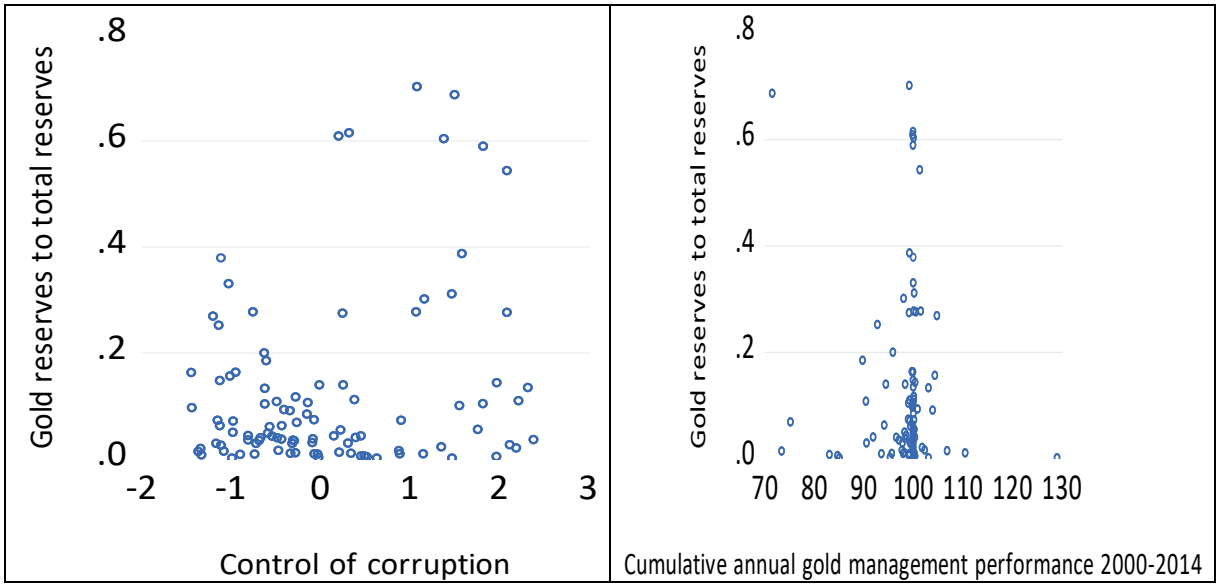

Cumulative annual gold management performance 2000-2014
130
120
110
100
90
80
70
.00001
.00100
.10000
Gold reserves to GDP
Cumulative annual gold management performance 2000-2014
130
120
110
100
90
80
70
0.0001
0.0100
1.0000
Gold reserves to total reserves
Cumulative annual gold management performance 2000-2014
130
120
110
100
90
80
70
1
2
3
4
5
Income group
Cumulative annual gold management performance 2000-2014
130
120
110
100
90
80
70
-5
0
5
10
15
20
25
Net investment in nonfinancial assets (% of GDP)

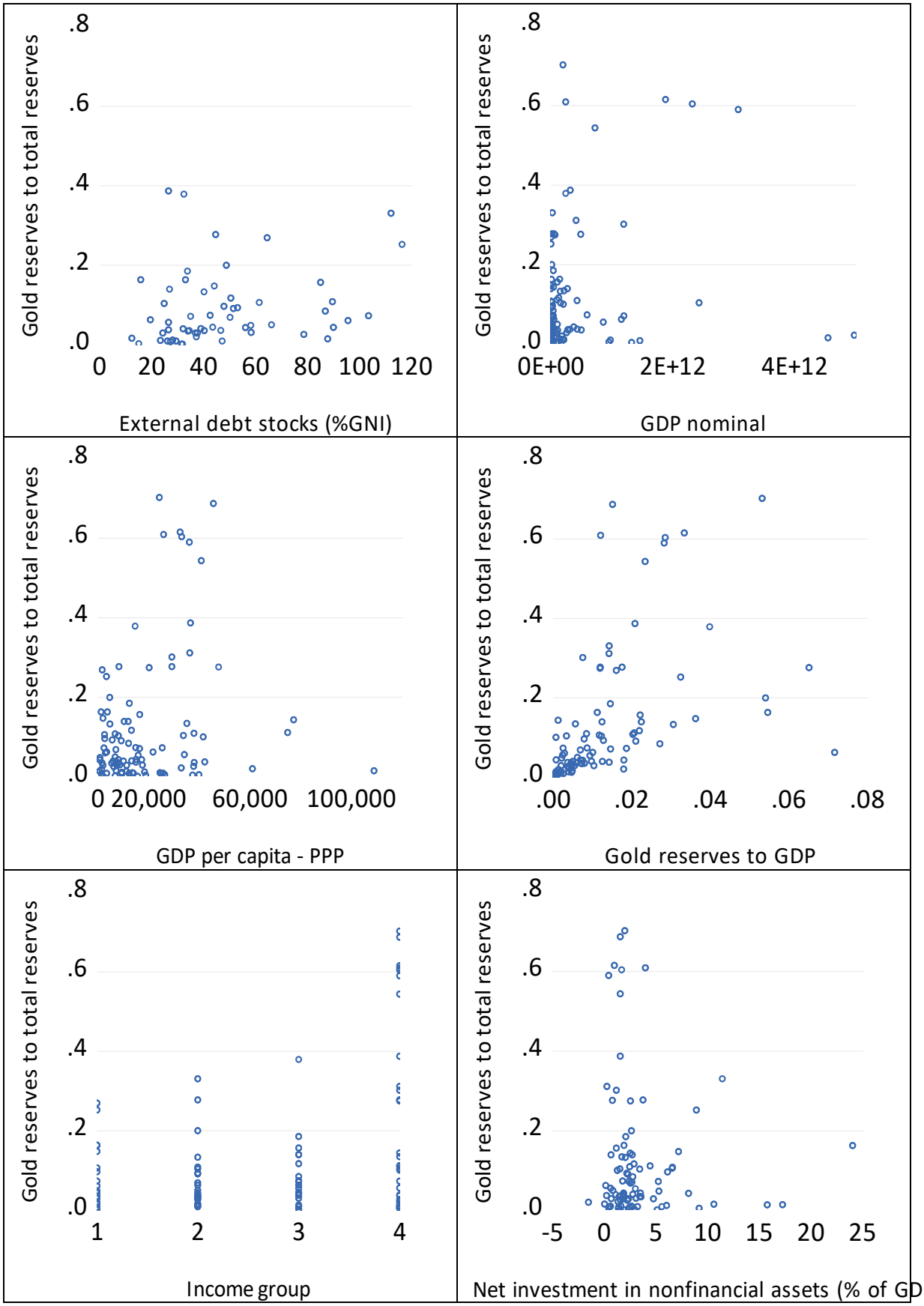

Cumulative annual gold management performance 2000-2014
130
120
110
100
90
80
70
-10
0
10
20
30
40
Official development aid (% GDP)
Cumulative annual gold management performance 2000-2014
130
120
110
100
90
80
70
200,000
20,000,000
2,000,000,000
Population
Cumulative annual gold management performance 2000-2014
130
120
110
100
90
80
70
5
15
30
50
200
500
Trade openness
Cumulative annual gold management performance 2000-2014
130
120
110
100
90
80
70
0.5
1.0
2.5
5.0
20.0
50.0
Unemployment (%)



The following scatterplots supplement the correlation matrix previously presented, and will give the reader a better representation of the statistical association between the average ratio of gold reserves to total reserves for each country in the sample (dependent variable) and selected independent variables.

Figure 49: 2000-2014 average gold reserves to total reserves scatterplot graphs




Gold reserves to total reserves
.8
.6
.4
.2
.0
0 20 40 60 80 100 120
External debt stocks (%GNI)
Gold reserves to total reserves
.8
.6
.4
.2
.0
0E+00 2E+12 4E+12
GDP nominal
Gold reserves to total reserves
.8
.6
.4
.2
.0
0 20,000 60,000 100,000
GDP per capita - PPP
Gold reserves to total reserves
.8
.6
.4
.2
.0
.00 .02 .04 .06 .08
Gold reserves to GDP
Gold reserves to total reserves
.8
.6
.4
.2
.0
1 2 3 4
Income group
Gold reserves to total reserves
.8
.6
.4
.2
.0
-5 0 5 10 15 20 25
Net investment in nonfinancial assets (% of GDP)

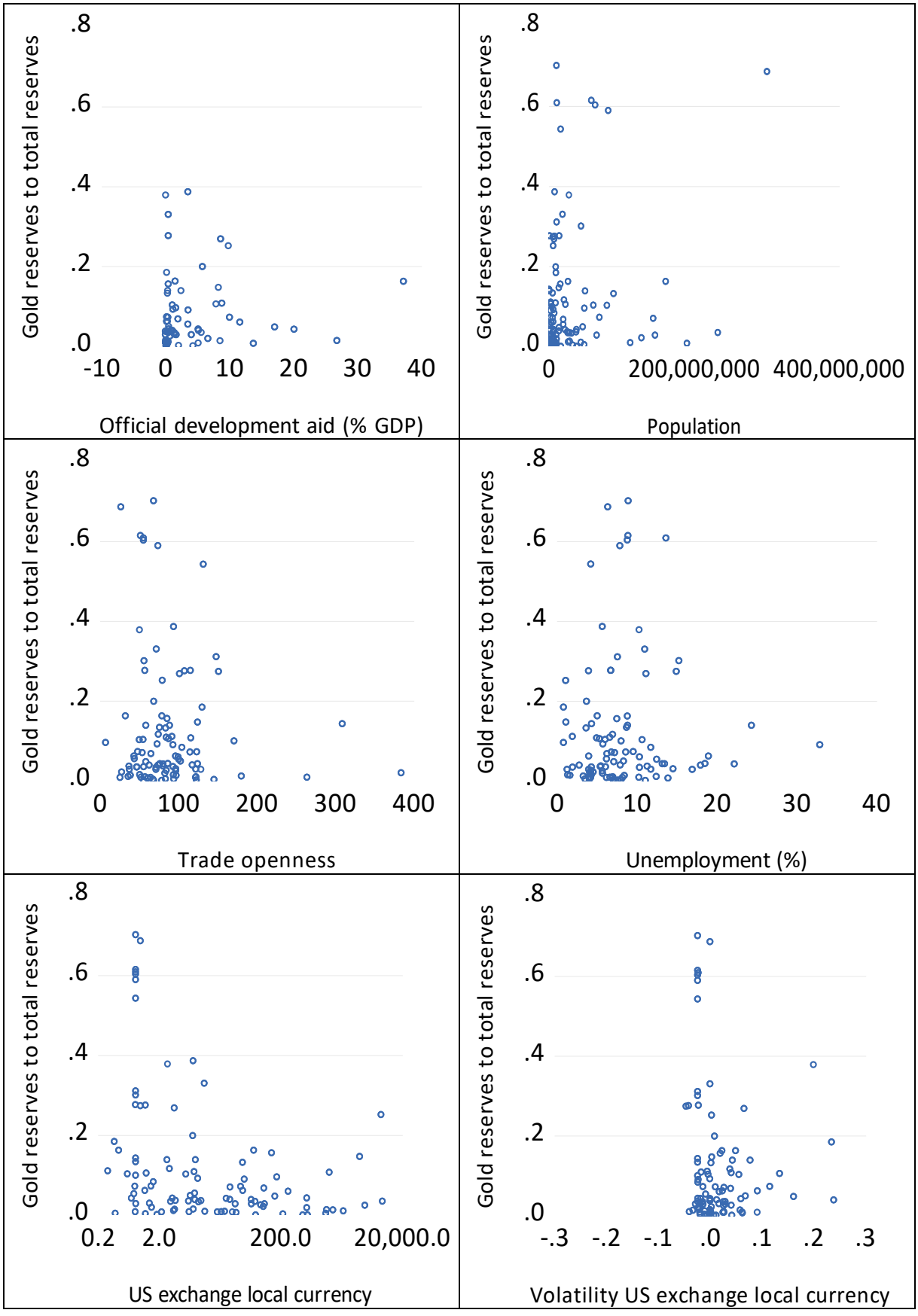
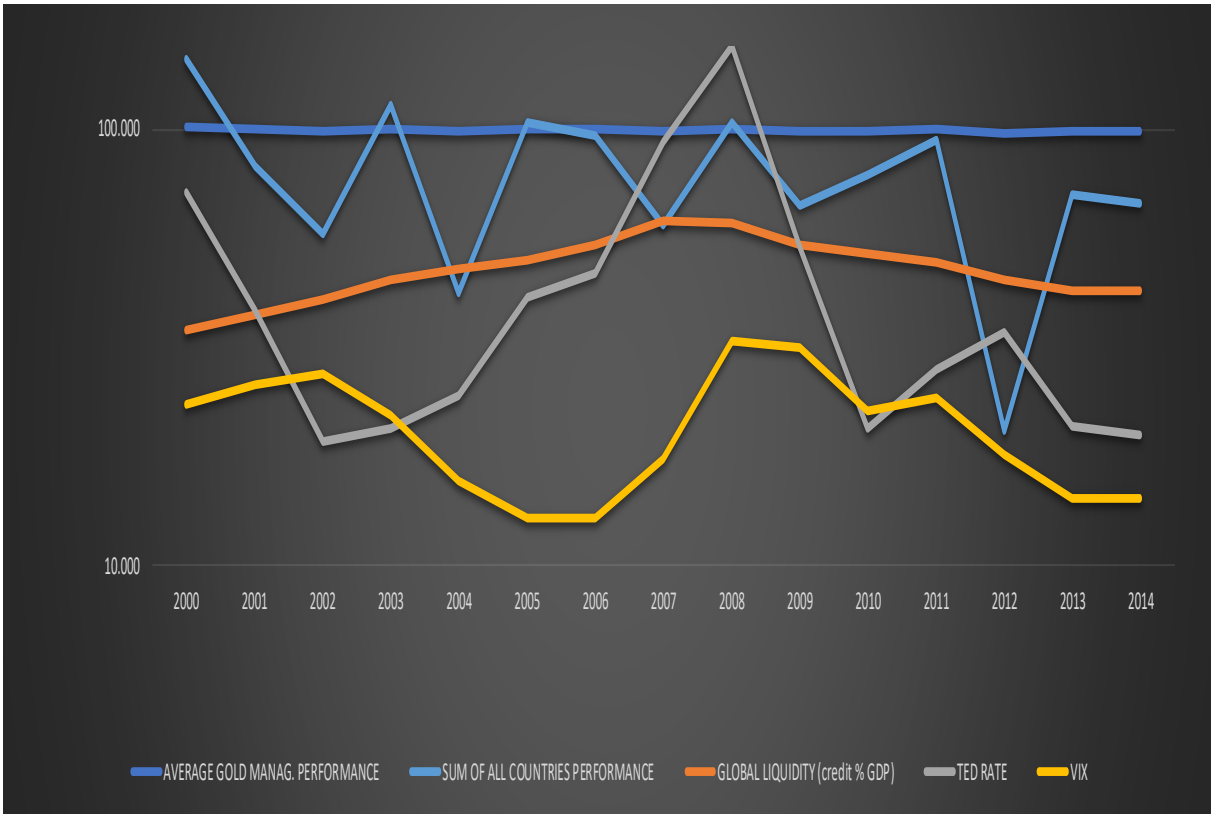

Gold reserves to total reserves
.8
.6
.4
.2
.0
-10
0
10
20
30
40
Official development aid (% GDP)
Gold reserves to total reserves
.8
.6
.4
.2
.0
0
200,000,000
400,000,000
Population
Gold reserves to total reserves
.8
.6
.4
.2
.0
0
100
200
300
400
Trade openness
Gold reserves to total reserves
.8
.6
.4
.2
.0
0
10
20
30
40
Unemployment (%)
Gold reserves to total reserves
.8
.6
.4
.2
.0
0.2
2.0
200.0
20,000.0
US exchange local currency
Gold reserves to total reserves
.8
.6
.4
.2
.0
-.3
-.2
-.1
.0
.1
.2
.3
Volatility US exchange local currency

Figure 50: Gold management performance vs. credit & risk conditions



This graph intends to depict the association between three risk metrics –Global liquidity (credit as a % of global GDP), TED rate and VIX– and the average gold management performance obtained by all countries in the study. For comparative purposes, this latter metric is supplemented by the aggregate performance of all countries in the study by year.

It can be observed that average performance is much more stable over time than aggregate performance. Aggregate performance can be used as a proxy for the net monetary gains obtained/losses incurred by countries due to the timing and volume decisions affecting. It is easy to observe through this metric that timing and sizing of gold transactions by the public sector is suboptimal in the majority of the years in the study (except 2000, 2003, 2005 and 2008).

The following graphs offers another view of the statistical associations between sovereign gold reserves management performance and the three risk/liquidity metrics mentioned. The variable "gold price in current USD" has also been included for illustrative purposes.

Figure 51: Correlation coefficients performance - risk/liquidity metrics & gold price

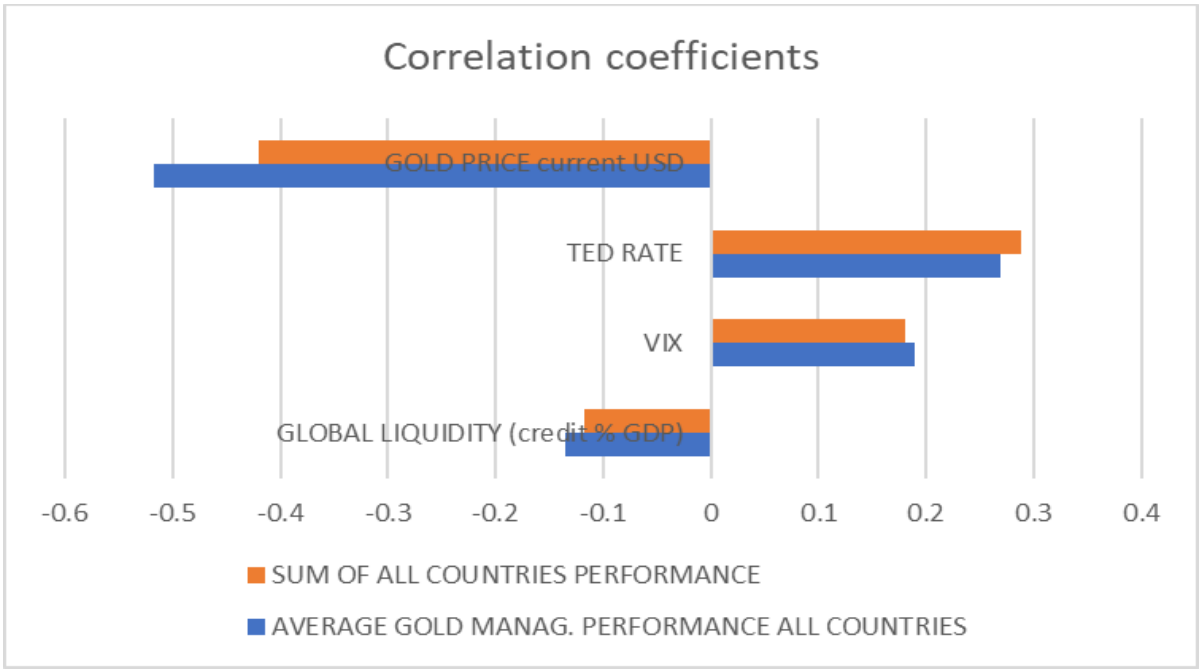
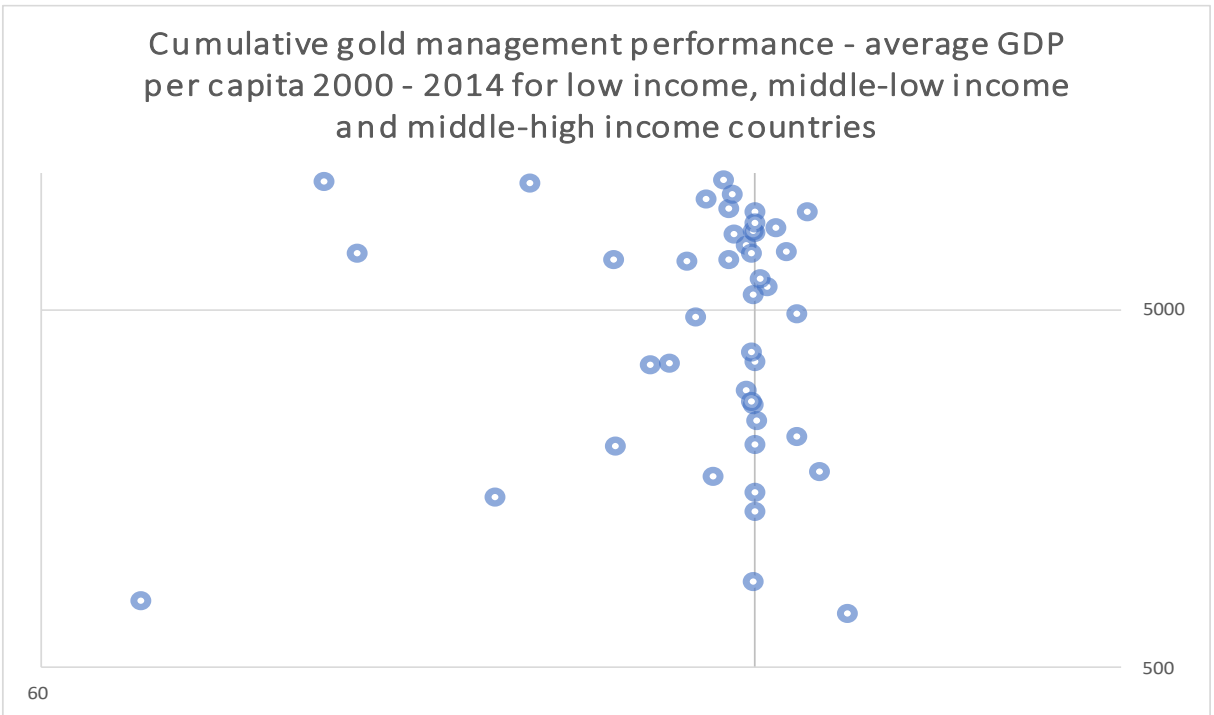


Figure 52: Cumulative annual gold management performance vs. average GDP per capita 2000 – 2014

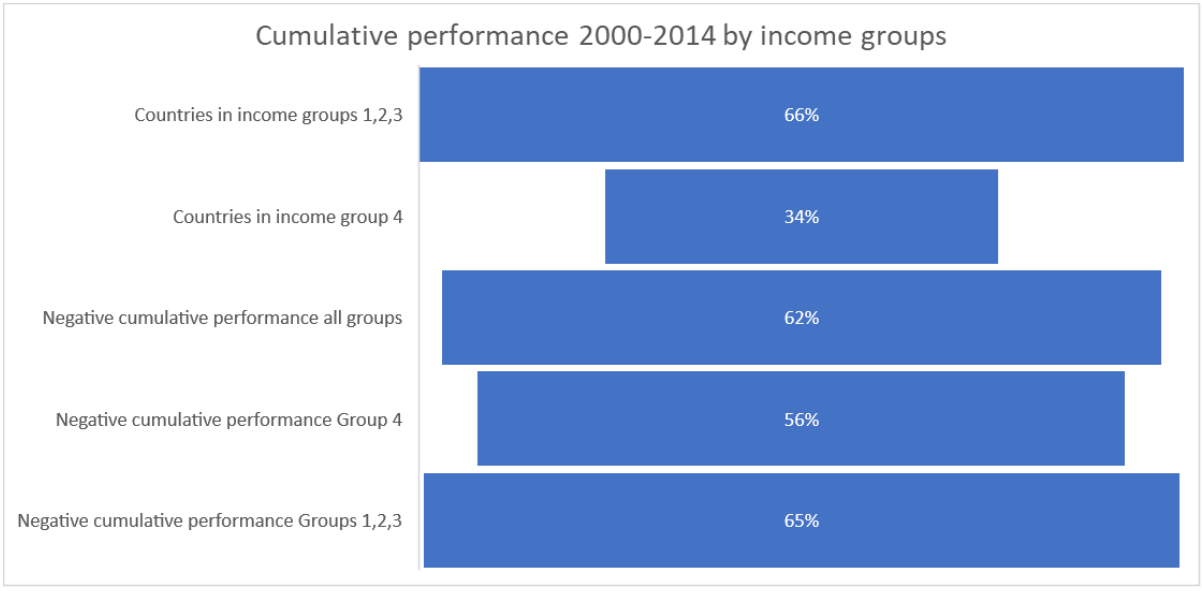


This graph intends to offer a visual presentation of the relation between the cumulative gold management performance low-income (lower than 995 USD of GNI per capita in 2017), low-middle income (between 996 and 3,895 USD in 2017) and middle-upper income countries (between 3,896 and 12,055 USD in 2017) and the income metric GDP per capita.

While no graphical indication of correlation between cumulative gold management performance and GDP per capita has been found in countries belonging to the high-income group, it has been noticed that the distribution is skewed to the left for the other three income groups.

The x-axis indicates whether gold transactions carried out during the period 2000 – 2014 have positively or negatively impacted the gold holding of the country. For example, a value of 60% would mean that a country, through the suboptimal planning of the timing and the volume of its gold transactions has eroded the value of the country´s gold reserve from the initial value, 100% (y-axis inception), by 40% in the period under study.

Figure 53: Cumulative performance 2000-2014 by income groups

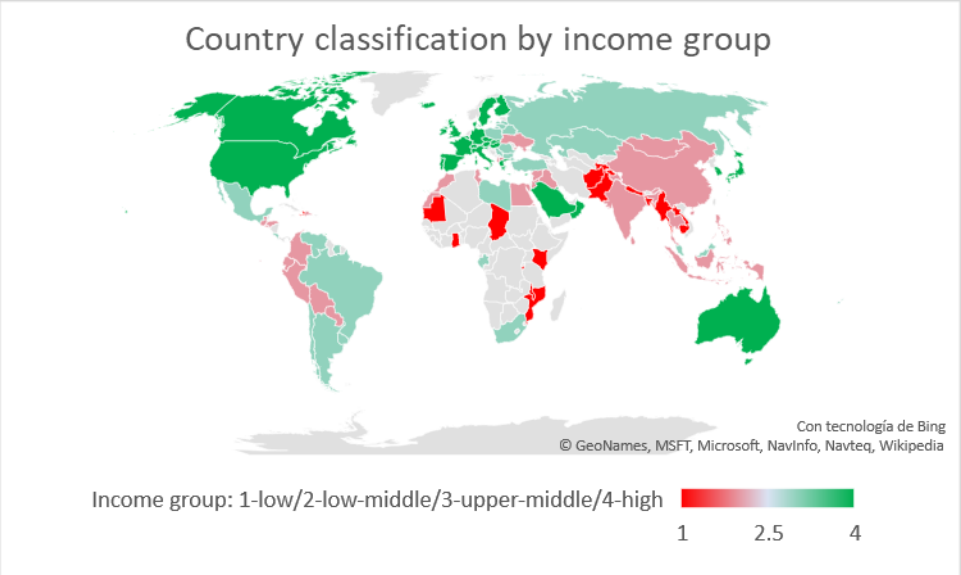


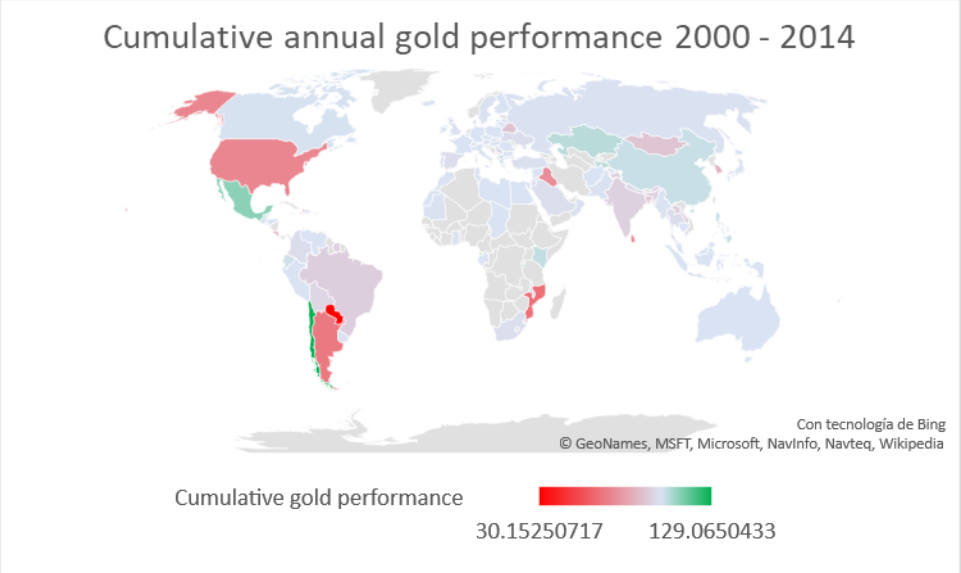
The graph above shows how, for the period 2000-2014, the majority if countries in the sample (62 out of 100) seem to have made a less than optimal management of their sovereign gold reserves. This suboptimal management appears to be more marked in countries with lower GDP per capita (groups 1, 2 and 3) than in high GDP per capita nations (group 4).

The following two maps allow the reader to compare whether countries with higher incomes tend to have better performance in the management of their sovereign gold reserves. In the second graph, the series “cumulative gold performance” ranges from 30% to 129%. As explained above, this refers to the impact of the planning of gold transactions –transaction

timing and volume decisions– in performance of a country´s gold reserve over the totality of the period 2000 – 2014.

Figure 54: Country mapping by income group and cumulative annual gold management performance - A





From the following 5 maps, the first 2 present another perspective of the idea that non-high-income countries tend to transact gold in a sub-optimal manner (attending to timing and volumes transacted). It is important to note, however, that from observing the map, the opposite

conclusion cannot be drawn, as several high-income countries also obtain negative returns for their gold holding over the whole period under study.

Please note that in the first graph, high income countries are not depicted (countries in grey do not belong to the sample studied in this research). Out of the 100 countries in the study, 66 belong to income groups 1, 2 or 3: low income, low-middle income, middle-upper income.

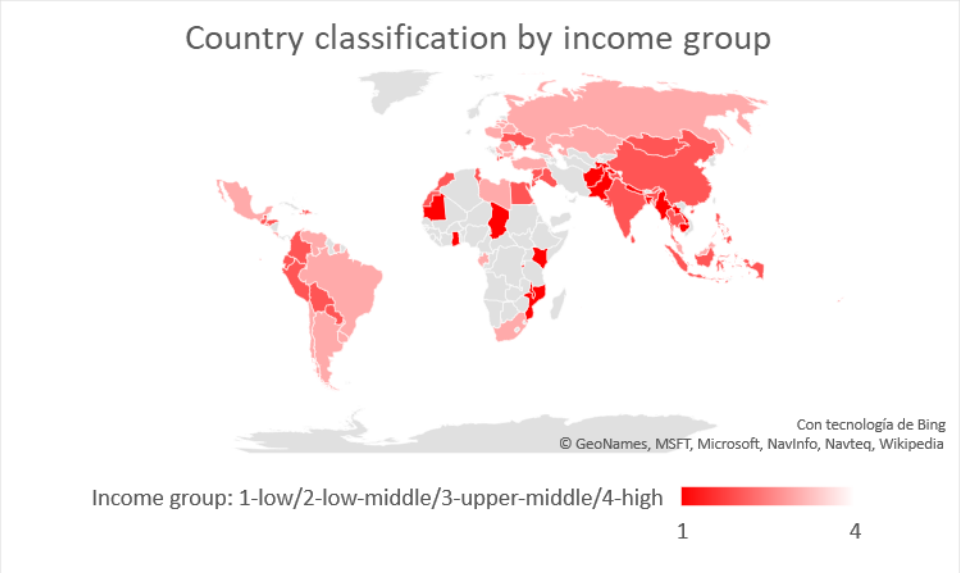
In the second graph, countries with positive cumulative performance are not depicted (countries in grey do not belong to the sample studied in this research). Out of the 100 countries in this study, 62 show a negative cumulative performance in the management of their sovereign gold reserves.

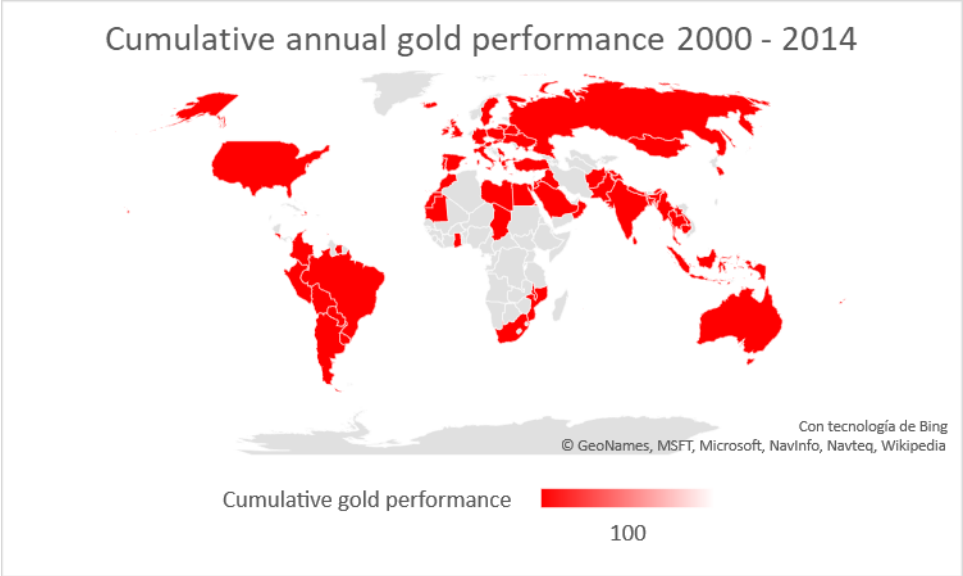
In the third graph, countries with negative cumulative performance are not depicted (countries in grey do not belong to the sample studied in this research).

In the fourth graph, countries belonging to income groups 1, 2 and 3 are depicted in solid red and countries belonging to group 4, in solid green (countries in grey do not belong to the sample studied in this research).

In the fifth graph, countries with a negative cumulative performance are depicted in solid red, while countries with a positive cumulative performance, in solid green (countries in grey do not belong to the sample studied in this research).

Figure 55: Country mapping by income group and cumulative annual gold management performance – B




Cumulative annual gold performance 2000 - 2014
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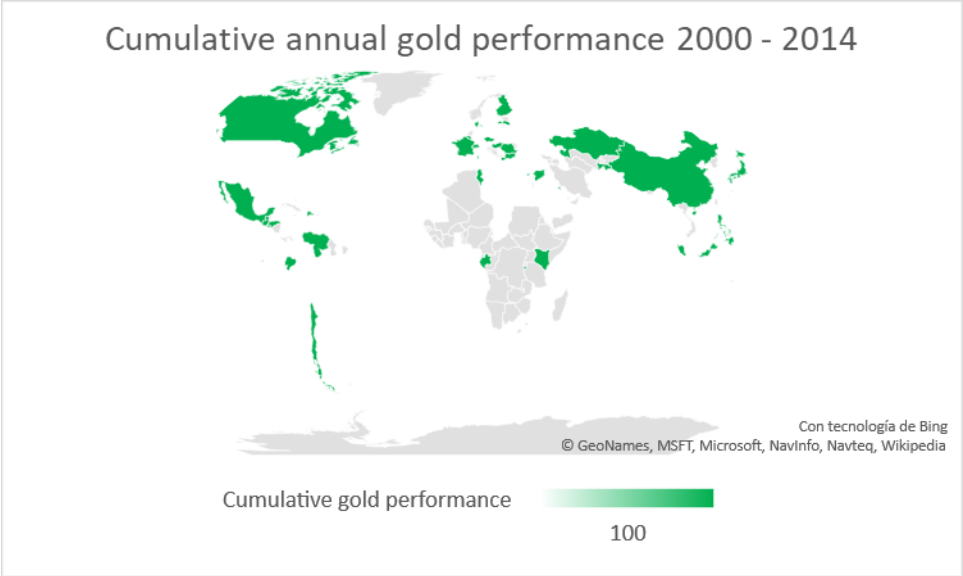
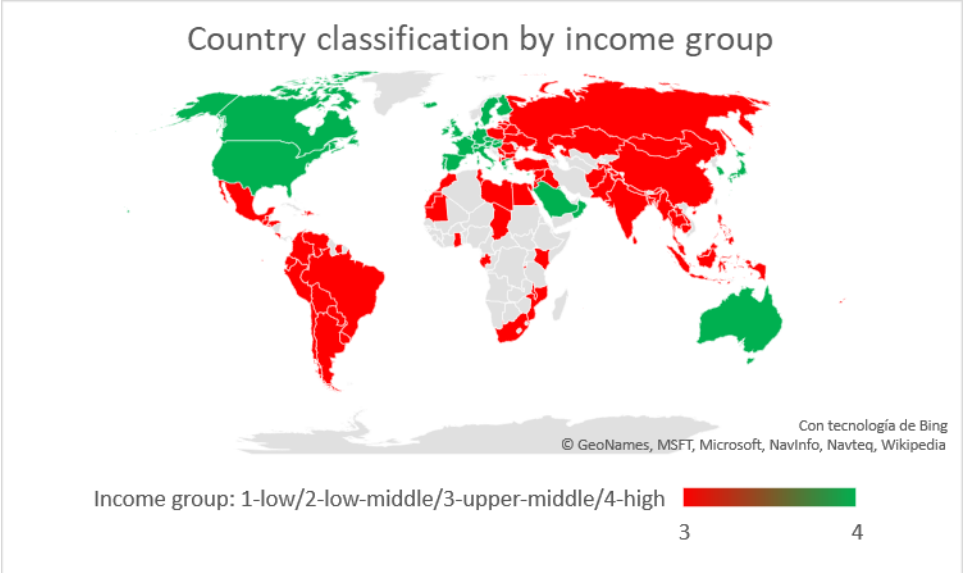
Cumulative gold performance
100


Cumulative annual gold performance 2000 - 2014
Con tecnología de Bing
© GeoNames, MSFT, Microsoft, Navinfo, Navteq, Wikipedia
Cumulative gold performance
100


Country classification by income group
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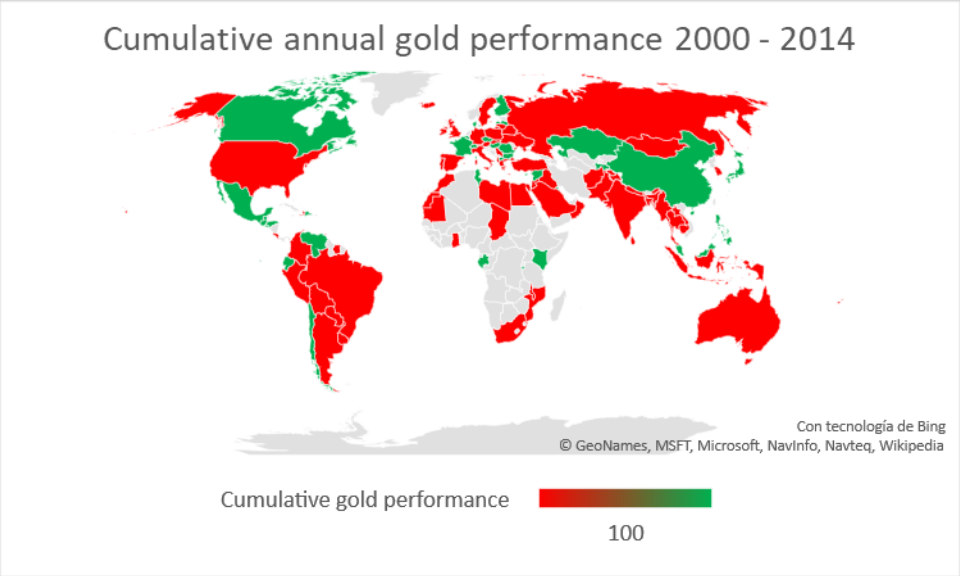
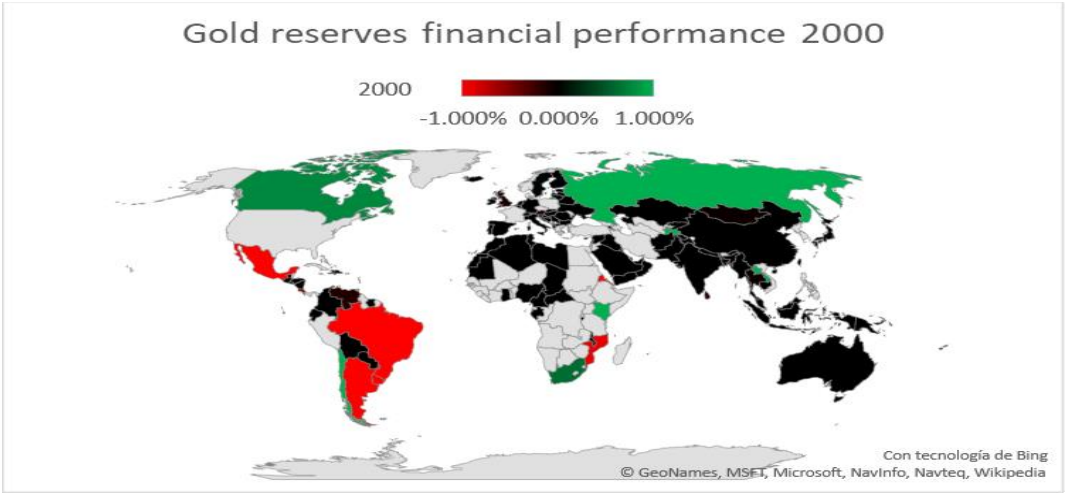
Income group: 1-low/2-low-middle/3-upper-middle/4-high
3
4

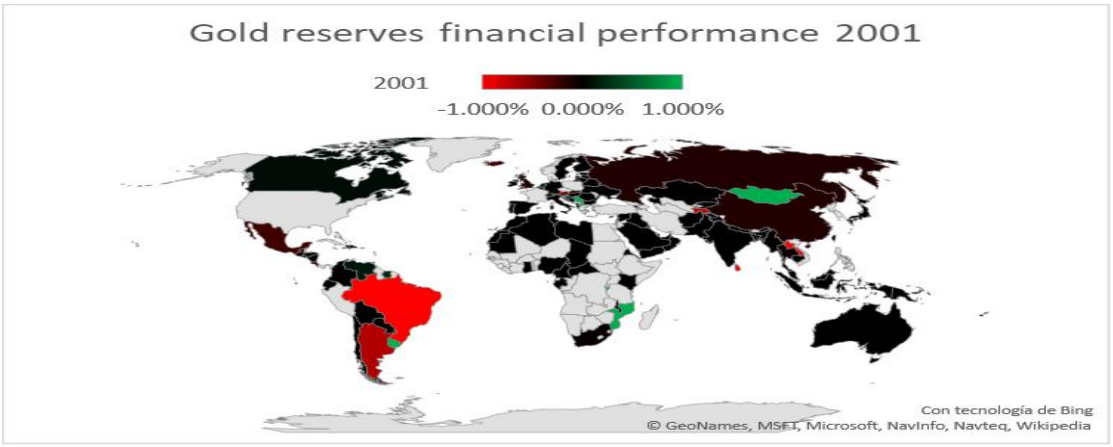


In the following maps, for illustrative purposes, values above 0% are represented in green and values below 0% are represented in red. The green colour indicates that a country has overperformed the market by its timing of gold reserves transactions. The red colour indicates that a country has underperformed the market due to the suboptimal timing of its gold reserves transactions.

For added clarity in the presentation of results, a colour heat map ranging from -1% to 1% has been used. In every year, there are few examples of countries exceeding these values, as can be observed in the figure following this one. Nonetheless, countries with values below -1% or above 1% are also represented in the heat maps, in red and green, respectively.

Figure 56: Annual gold reserves financial performance by country




Gold reserves financial performance 2001
2001
-1.000% 0.000% 1.000%
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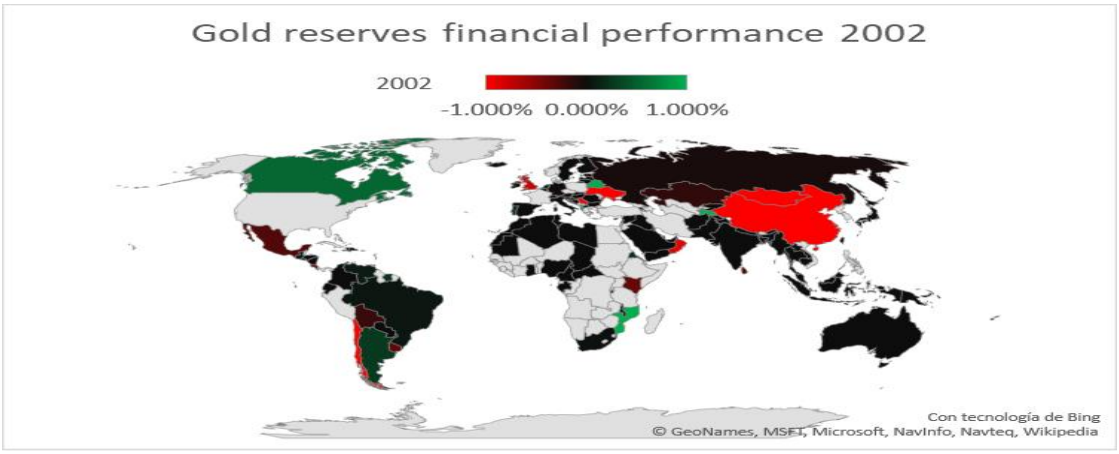
Gold reserves financial performance 2002
2002
-1.000% 0.000% 1.000%
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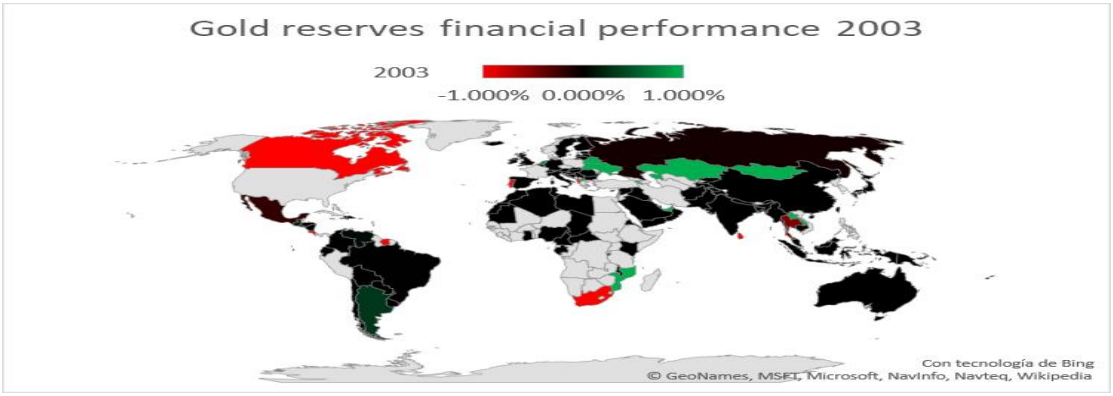
Gold reserves financial performance 2003
2003
-1.000% 0.000% 1.000%
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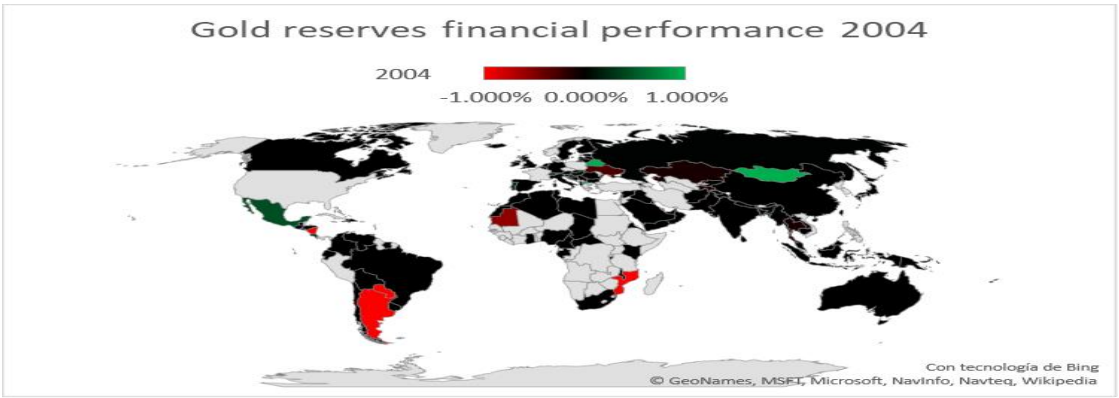
Gold reserves financial performance 2004
2004
-1.000% 0.000% 1.000%
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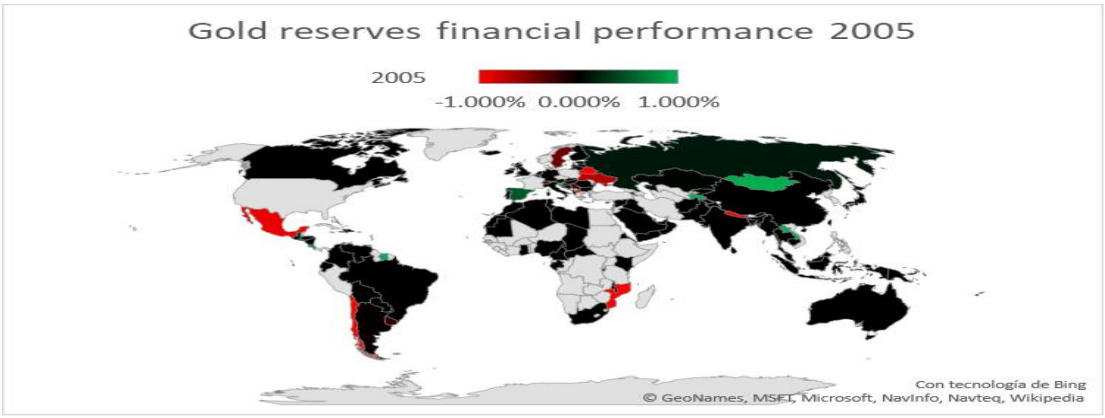
Gold reserves financial performance 2005
2005
-1.000% 0.000% 1.000%
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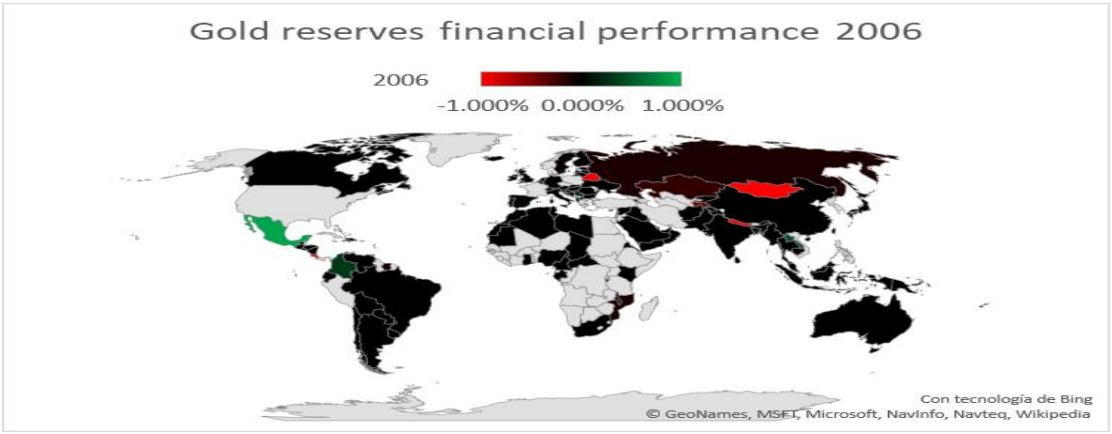
Gold reserves financial performance 2006
2006
-1.000% 0.000% 1.000%
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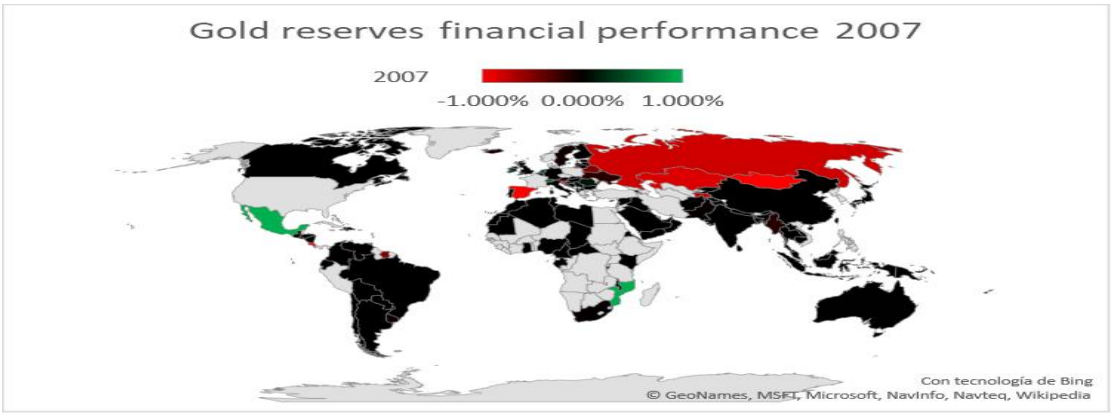
Gold reserves financial performance 2007
2007
-1.000% 0.000% 1.000%
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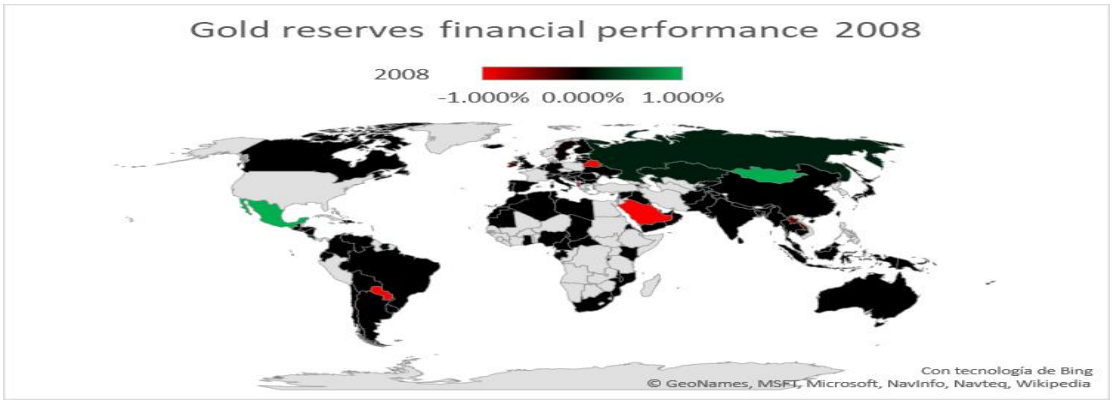
Gold reserves financial performance 2008
2008
-1.000% 0.000% 1.000%
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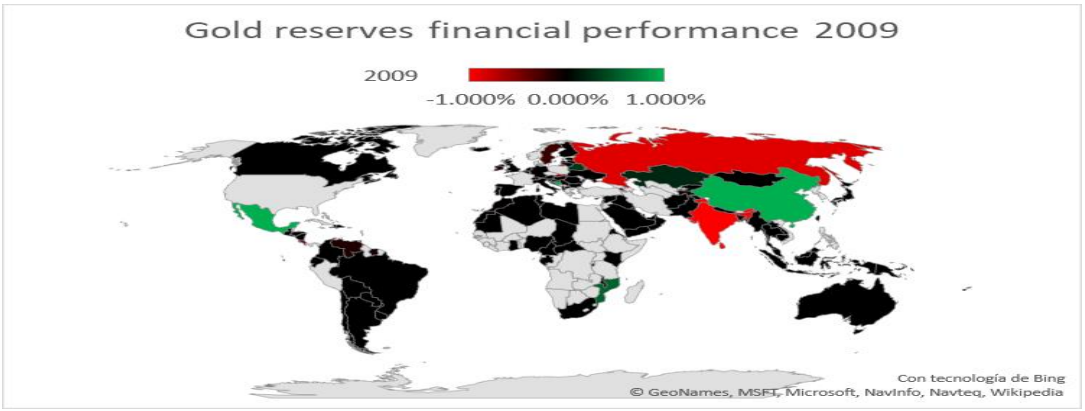
Gold reserves financial performance 2009
2009
-1.000% 0.000% 1.000%
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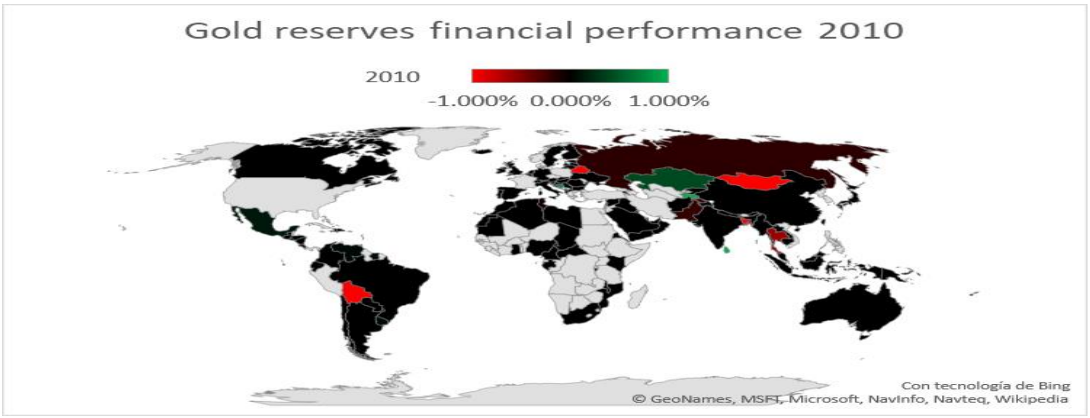
Gold reserves financial performance 2010
2010
-1.000% 0.000% 1.000%
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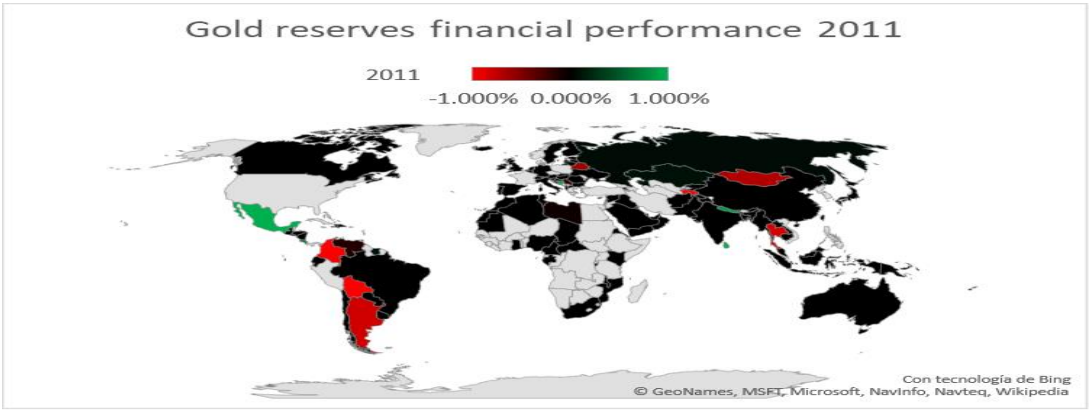
Gold reserves financial performance 2011
2011
-1.000% 0.000% 1.000%
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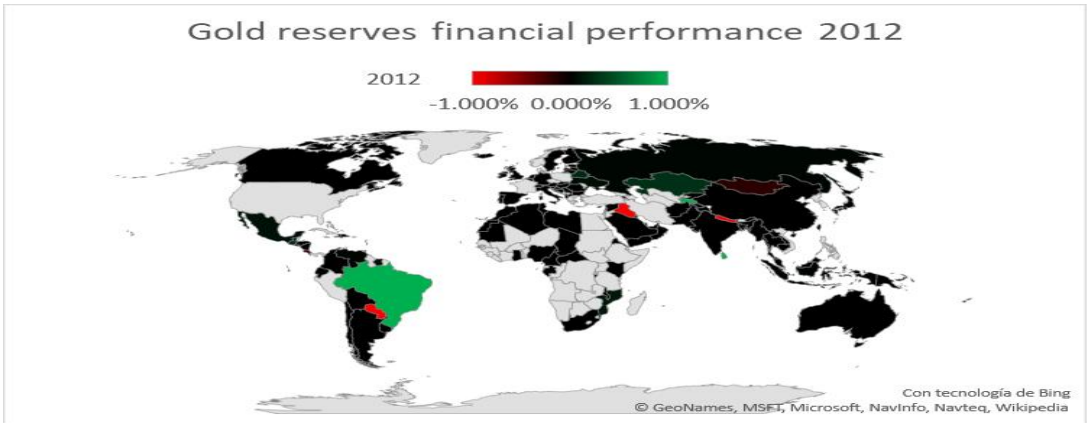
Gold reserves financial performance 2012
2012
-1.000% 0.000% 1.000%
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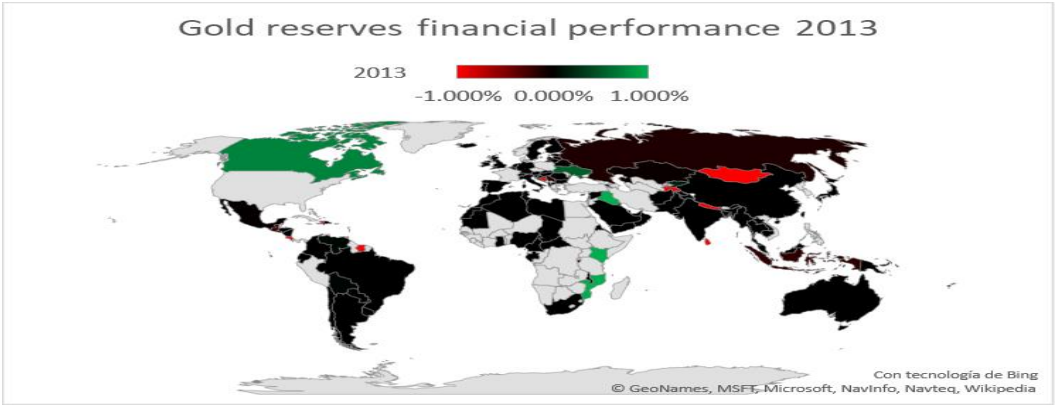
Gold reserves financial performance 2013
2013
-1.000% 0.000% 1.000%
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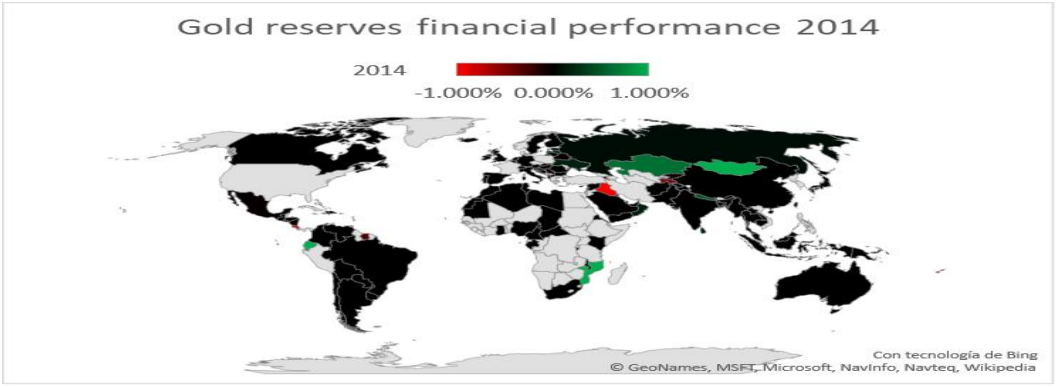
Gold reserves financial performance 2014
2014
-1.000% 0.000% 1.000%
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Figure 57: Countries with above 1% / below -1% financial performance, by year [7]

COUNTRY	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014
Afghanistan										0.000%	0.000%	0.000%	0.000%	0.000%	0.000%
Albania	-0.134%	0.005%	1.823%	-1.640%	0.000%	0.000%	0.000%	0.000%	-0.670%	0.000%	0.000%	0.000%	0.000%	0.000%	0.000%
Algeria		0.000%	0.000%	0.000%	0.000%	0.000%	0.000%	0.000%	0.000%	0.000%	0.000%	0.000%	0.000%	0.000%	0.000%
Argentina	-28.248%	-0.697%	0.274%	0.307%	-3.322%	-0.027%	0.000%	0.000%	0.000%	0.000%	0.000%	-0.817%	0.000%	0.000%	0.000%
Armenia	-0.063%	-0.013%	0.000%	12.132%											
Aruba	0.000%	0.000%	0.000%	0.000%	0.000%	0.000%	0.000%	0.000%	0.000%	0.000%	0.000%	0.000%	0.000%	0.000%	0.000%
Australia	0.001%	0.000%	0.000%	0.000%	-0.001%	-0.004%	0.000%	0.004%	-0.001%	0.001%	0.000%	0.000%	0.000%	0.000%	0.000%
Austria	-0.143%	-0.539%	-0.078%	0.000%	0.098%	0.028%	-0.064%	-0.093%	0.000%	0.000%	0.000%	0.000%	0.000%	0.000%	0.000%
Bahrain	0.000%	0.000%	0.000%	0.000%	0.000%	0.000%	0.000%	0.000%	0.000%	0.000%	0.000%	0.000%	0.000%	0.000%	0.000%
Bangladesh	-0.029%	0.028%	0.006%	-0.037%	-0.014%	0.000%	0.001%	-0.027%	-0.001%	0.001%	-9.404%	0.000%	0.000%	0.000%	0.073%
Belarus			6.073%	2.462%	1.015%	-9.620%	-1.515%	-0.518%	-1.503%	0.309%	-6.469%	-0.625%	0.249%	-0.023%	-0.047%
Belgium	0.000%	-0.001%	0.000%	-0.003%	0.001%	0.199%	0.000%	0.001%	0.000%	0.000%	0.000%	0.001%	0.000%	0.002%	0.000%
Bolivia	-0.001%	0.000%	-0.184%	0.000%	0.000%	0.000%	0.000%	0.000%	0.000%	0.000%	-2.656%	-1.266%	0.000%	0.035%	0.000%
Bosnia and Herzegovina										6.137%	0.807%	1.086%	0.000%	-5.758%	0.000%
Brazil	-1.208%	-6.467%	0.059%	0.003%	-0.001%	0.001%	0.000%	-0.001%	-0.001%	0.000%	0.000%	0.000%	1.193%	0.000%	0.000%
Bulgaria	0.000%	0.002%	-0.010%	0.006%	0.002%	0.002%	-0.001%	-0.001%	0.018%	0.002%	-0.001%	0.000%	0.000%	0.000%	-0.001%
Burundi	0.000%	6.860%	0.000%	0.000%	0.000%	0.000%	0.000%	0.000%	0.000%	0.000%	0.000%	0.000%	0.000%	0.000%	0.000%
Cambodia	0.000%	0.000%	0.000%	0.000%	0.000%	0.000%	0.000%	0.000%	0.000%	0.000%	0.000%	0.000%	0.000%	0.000%	0.000%
Cameroon	0.000%	0.000%	0.000%	0.000%	0.000%	0.000%	0.000%	0.000%	0.000%						
Canada	0.774%	0.069%	0.555%	-1.747%	0.000%	0.000%	0.000%	0.000%	0.000%	0.000%	0.000%	0.000%	0.000%	0.746%	0.000%
Central African Rep.	0.000%	0.000%	0.000%	0.000%	0.000%	0.000%	0.000%	0.000%	0.000%						
Chad	0.000%	0.000%	0.000%	0.000%	0.000%	0.000%	0.000%	0.000%	0.000%						
Chile	62.212%	-0.003%	-30.947%	0.000%	0.000%	-2.197%	0.000%	0.000%	0.000%	0.000%	0.000%	0.000%	0.000%	0.000%	0.000%
China	0.000%	-0.133%	-1.344%	0.000%	0.000%	0.000%	0.000%	0.000%	0.000%	3.816%	0.000%	0.000%	0.000%	0.000%	0.000%
Colombia	-0.002%	0.000%	0.000%	-0.006%	0.000%	0.001%	0.316%	-0.003%	0.001%	0.000%	0.000%	-2.096%	0.000%	0.000%	0.000%
Comoros	0.000%	0.000%	0.000%	0.000%	0.000%	0.000%	0.000%	0.000%	0.000%	0.000%	0.000%	0.000%	0.000%	0.000%	0.000%
Congo	0.000%	0.000%	0.000%	0.000%	0.000%	0.000%	0.000%	0.000%	0.000%						
Costa Rica	-0.517%	-0.233%	-0.396%	-2.117%	0.265%	0.858%	-3.298%	-7.047%	0.322%	-0.472%	-0.201%	0.741%	-0.255%	-1.718%	-0.810%
Croatia															
Cyprus	0.002%	-0.005%	0.015%	-0.005%	0.001%	0.000%	0.000%	0.000%	0.128%	0.000%	0.000%	0.000%	0.000%	0.000%	-0.003%
Czech Republic	0.000%	0.002%	-0.013%	0.021%	0.014%	0.013%	-0.001%	-0.016%	0.012%	-0.036%	-0.119%	0.020%	0.319%	0.050%	-0.034%
Denmark	0.000%	0.000%	0.003%	0.005%	0.000%	0.000%	0.000%	0.000%	0.000%	0.000%	0.000%	0.000%	0.000%	0.000%	0.000%
Dominican Republic	-0.099%	0.101%	0.001%	0.003%	0.000%	0.000%	0.000%	0.000%	0.000%	0.000%	0.000%	0.000%	0.000%	0.000%	0.000%
Ecuador	0.000%	0.000%	0.000%	0.000%	0.000%	0.000%	-0.003%	0.000%	0.000%	0.000%	0.000%	0.000%	0.000%	0.000%	1.539%
Egypt	0.000%	0.000%	-0.001%	0.000%	0.000%	0.000%	0.000%	0.000%	0.000%	0.000%	0.000%	0.000%	0.000%	0.001%	0.000%
El Salvador	0.000%	0.000%	0.000%	0.000%	0.332%	0.470%	0.080%	0.000%	0.000%	0.000%	0.000%	0.000%	0.000%	0.000%	0.000%
Eritrea	-2.145%	0.000%	0.183%												
Estonia	0.000%	0.000%	0.000%	0.000%	0.000%	0.000%	0.000%	0.000%	0.000%	0.000%	0.000%	0.000%	0.000%	0.000%	0.000%
Fiji	0.000%	0.000%	0.000%	0.000%	0.000%	0.000%	0.000%	0.000%	0.000%	0.000%	0.000%	0.000%	0.000%	0.000%	-4.658%
Finland	0.000%	0.000%	0.004%	0.000%	-0.003%	0.000%	0.000%	0.000%	0.000%	0.000%	0.000%	0.000%	0.000%	0.000%	0.000%
France	0.000%	0.000%	0.000%	0.000%	0.040%	0.054%	0.021%	0.074%	0.000%	-0.110%	0.000%	0.000%	0.000%	0.000%	0.000%
Gabon	0.000%	0.000%	0.000%	0.000%	0.000%	0.000%	0.000%	0.000%	0.000%						
Germany	0.000%	0.025%	0.000%	0.001%	0.001%	-0.008%	0.001%	0.003%	0.001%	-0.004%	0.007%	0.000%	-0.003%	-0.010%	0.002%
Ghana	0.000%	-0.002%	0.000%	0.000%	0.000%	0.000%	0.000%	0.000%	0.000%	0.000%	0.000%	0.000%	0.000%	0.000%	0.000%
Greece	0.000%	-0.481%	0.017%	0.568%	-0.002%	0.000%	-0.119%	-0.021%	-0.017%	-0.010%	-0.011%	-0.009%	0.000%	-0.005%	-0.001%
Guatemala	-0.031%	-0.044%	0.107%	0.151%	0.011%	0.170%	0.000%	0.016%	0.008%	0.005%	0.000%	-0.003%	0.257%	-0.268%	0.000%
Haiti	0.000%	0.000%	0.000%	0.000%	0.000%	-0.004%	0.000%	0.000%	0.000%	0.000%	0.000%	0.000%	0.000%	-16.886%	0.000%
Honduras	0.000%	0.000%	0.000%	0.000%	0.000%	0.000%	0.000%	0.000%	0.000%	0.000%	0.000%	0.008%	0.000%	0.007%	-0.006%
Hong Kong	0.000%	0.000%	0.000%	0.000%	-0.003%	0.019%	0.000%	0.000%	0.000%	0.000%	0.000%	0.000%	0.000%	0.000%	0.000%
Hungary	0.000%	0.000%	0.000%	0.000%	0.054%	0.000%	0.000%	0.000%	0.000%	0.000%	0.000%	0.000%	0.000%	0.000%	0.000%
Iceland	0.000%	-0.255%	-0.035%	0.021%	-0.020%	0.014%	0.001%	-0.086%	-0.005%	0.000%	-0.003%	0.000%	0.000%	0.000%	0.000%
India	0.000%	0.000%	0.000%	0.000%	0.000%	0.000%	0.000%	0.000%	0.000%	-5.830%	0.000%	0.000%	0.000%	0.000%	0.000%
Indonesia	0.000%	0.000%	0.000%	0.000%	0.000%	0.001%	0.014%	0.000%	0.000%	0.000%	0.000%	0.000%	0.020%	-0.180%	0.000%
Iraq						0.000%	0.000%	0.000%	0.000%	0.000%	0.000%	0.000%	-23.539%	3.476%	-6.479%
Ireland	0.000%	0.000%	0.000%	0.000%	0.000%	0.000%	0.000%	0.285%	-0.260%	-0.106%	0.000%	0.000%	0.000%	0.000%	0.000%
Italy	0.000%	0.000%	0.000%	0.000%	0.000%	0.000%	0.000%	0.000%	0.000%	0.000%	0.000%	0.000%	0.000%	0.000%	0.000%
Japan	0.023%	0.003%	0.000%	0.000%	0.000%	0.000%	0.000%	0.000%	0.000%	0.000%	0.000%	0.000%	0.000%	0.000%	0.000%
Jordan	-0.012%	-0.002%	0.004%	0.013%	-0.000%	0.001%	0.004%	-1.807%	-0.232%	0.008%	0.000%	0.000%	0.247%	-0.449%	-0.084%
Kazakhstan	0.000%	-0.003%	-0.149%	3.901%	-0.089%	0.026%	-0.200%	-0.864%	0.150%	0.219%	0.418%	0.098%	0.270%	-0.039%	0.643%
Kenya	1.797%	0.000%	-0.369%	0.000%	0.000%	0.000%	0.000%	0.000%	0.000%	0.000%	0.000%	0.000%	0.000%	1.666%	0.000%
Korea	0.004%	-0.012%	0.006%	0.027%	-0.008%	0.029%	0.316%	-0.259%	0.001%	0.007%	-0.004%	-10.778%	-1.292%	-3.308%	0.000%
Kuwait	0.000%	-0.016%	0.000%	0.000%	0.000%	0.000%	0.000%	0.000%	0.000%	0.000%	0.000%	0.147%	0.000%	0.000%	0.000%
Kyrgyz Republic	0.000%	0.000%	0.000%	0.001%	0.000%	0.000%	0.000%	0.000%	0.000%	0.000%	0.001%	0.003%	0.040%	0.183%	-0.045%
Laos	11.182%	-23.403%	0.000%	3.737%	0.000%	1.239%	0.456%	0.000%	-0.398%	0.000%	0.000%	0.000%	0.000%	-0.013%	0.000%
Latvia	0.010%	-0.003%	0.000%	0.000%	0.000%	0.002%	-0.004%	0.000%	0.000%	0.000%	0.000%	0.000%	0.000%	0.000%	0.239%
Lebanon	0.000%	0.000%	0.000%	0.000%	0.000%	0.000%	0.000%	0.000%	0.000%	0.000%	0.000%	0.000%	0.000%	0.000%	0.000%
Libya	0.000%	0.000%	0.000%	0.000%	0.000%	0.000%	0.000%	0.000%	0.000%	0.000%	0.000%	-0.052%	0.000%	0.000%	0.000%
Lithuania	0.000%	-0.003%	0.003%	0.000%	0.000%	0.000%	0.000%	-0.040%	0.003%	0.010%	0.000%	0.000%	0.000%	0.000%	0.000%
Luxembourg	0.000%	0.000%	0.000%	0.252%	-0.014%	0.000%	0.061%	0.000%	0.015%	0.143%	0.000%	0.000%	0.000%	0.000%	-0.041%
Macedonia	0.000%	1.052%	0.022%	2.659%	1.219%	-1.077%	0.000%	0.000%	0.000%	0.000%	0.000%	0.002%	0.000%	0.000%	-0.004%
Malawi	0.000%	0.000%	0.000%	0.000%	0.000%	0.000%	0.000%	0.000%	-0.007%	0.000%	0.000%	0.000%	0.000%	-0.025%	0.000%
Malaysia	0.000%	0.000%	0.000%	0.000%	0.000%	0.000%	0.000%	0.000%	0.000%	0.000%	0.000%	0.000%	0.000%	0.000%	0.038%
Malta	-0.818%	-0.124%	-2.200%	0.921%	-0.281%	0.000%	2.508%	-24.149%	4.877%	10.177%	3.360%	2.716%	0.000%	0.000%	1.020%
Mauritania	0.000%	0.000%	0.000%	0.000%	-0.564%	0.000%	0.000%	0.000%	0.000%	0.000%	0.000%	0.000%	0.000%	0.000%	0.000%
Mauritius	0.000%	0.000%	0.000%	0.000%	0.000%	0.000%	0.000%	0.000%	0.000%	-10.908%	0.000%	0.053%	0.000%	0.577%	2.216%
Mexico	-1.550%	-0.252%	-0.288%	-0.195%	0.449%	-0.933%	0.943%	1.670%	3.312%	2.364%	0.137%	4.768%	0.102%	-0.011%	-0.018%
Mongolia	-0.043%	1.379%	-12.356%	8.145%	4.171%	20.165%	-1.170%	-9.629%	1.173%		-17.271%	-0.706%	-0.165%	-7.145%	3.911%
Morocco	0.000%	-0.001%	-0.002%	0.000%	0.000%	0.000%	0.000%	0.000%	0.000%	-0.015%	-0.005%	0.000%	0.000%	0.000%	0.000%
Mozambique	-0.915%	4.510%	6.558%	4.606%	-56.951%	-1.696%	-0.111%	2.592%	0.001%	0.565%	0.002%	0.018%	0.143%	2.790%	2.326%
Myanmar	0.000%	0.000%	0.000%	0.000%	0.000%	0.000%	0.000%	-0.147%	0.000%	0.000%	0.000%	0.000%	0.000%	0.000%	0.000%
Nepal	0.000%	0.001%	0.000%	0.000%	0.000%	-0.161%	-1.033%				0.000%	0.885%	-1.016%	-1.028%	0.496%
Netherlands	0.000%	0.195%	0.173%	0.781%	0.000%	-0.093%	-0.124%	0.450%	-0.036%	0.000%	0.000%	0.000%	0.000%	0.000%	0.000%
Netherlands Antilles	0.000%	0.000%	0.000%	0.000%	0.000%	0.000%	0.000%	0.000%	0.000%	0.000%	10.736%				
Nicaragua		-0.001%	0.000%	0.000%	-1.063%										
Nigeria	0.000%	0.000%	0.000%	0.000%	0.000%	0.000%	0.000%	0.000%	0.000%	0.000%	0.000%	0.000%	0.000%	0.000%	0.000%
Norway	0.021%	0.000%	-0.005%	0.002%											
Oman	0.000%	0.000%	-0.903%	0.000%	0.000%	0.000%	0.000%	0.000%	-0.045%	0.000%	0.000%	0.000%	-0.001%	0.000%	0.177%
Pakistan	0.002%	0.000%	0.001%	-0.008%	-0.003%	0.000%	0.001%	-0.025%	0.000%	0.000%	-0.205%	-0.001%	0.002%	0.000%	0.002%
Papua New Guinea	0.000%	0.000%	0.000%	0.000%	0.000%	0.000%	0.000%	0.000%	0.000%	0.000%	0.000%	0.000%	0.000%	0.000%	0.000%
Paraguay	0.000%	0.000%	0.000%	0.000%	-1.015%				-2.951%	0.000%	0.000%	0.000%	-65.882%	0.000%	0.000%
Peru	0.000%	-0.007%	0.000%	0.000%	0.000%	0.000%	0.000%	0.000%	0.000%	0.000%	0.000%	0.000%	0.000%	0.000%	0.000%
Philippines	0.018%	0.272%	-0.176%	0.509%	0.478%	-0.175%	-0.158%	-0.456%	0.418%	0.110%	2.144%	0.684%	0.020%	0.024%	0.000%
Poland	-0.001%	-0.002%	-0.002%	0.001%	-0.001%	0.000%	0.000%	0.000%	0.000%	0.000%	0.001%	0.000%	0.000%	0.000%	0.000%
Portugal	0.000%	0.000%	0.166%	-1.092%	0.291%	-0.047%	-0.086%	0.001%	0.000%	0.000%	0.000%	0.000%	0.000%	0.000%	0.000%
Qatar	0.000%	0.000%	0.000%	0.000%	-3.662%	-7.456%	0.000%	8.856%	0.001%	0.000%	0.000%	0.000%	0.000%	0.000%	0.000%
Romania	-0.012%	-0.001%	-0.002%	0.029%	0.001%	0.000%	-0.002%	0.132%	0.000%	0.001%	0.000%	0.000%	0.000%	0.000%	0.000%
Russia	1.153%	-0.126%	-0.044%	0.075%	0.016%	0.134%	-0.108%	0.808%	0.184%	-0.880%	0.169%	0.667%	0.039%	-0.113%	0.071%
Saudi Arabia	0.000%	0.000%	0.000%	0.000%	0.000%	0.000%	0.000%	0.000%	-1.645%	0.000%	0.000%	0.000%	0.000%	0.000%	0.000%
Serbia		2.258%	-5.339%	-0.023%	-0.020%	-0.321%	0.255%	0.041%	0.031%	-0.002%	0.000%	-0.163%	0.050%	-0.136%	-0.045%
Singapore	1.797%	0.000%	0.000%	0.000%	0.000%	0.000%	0.000%	0.000%	0.000%	0.000%	0.000%	0.000%	0.000%	0.000%	0.000%
Slovakia	0.000%	-0.190%	0.000%	0.000%	0.000%	0.000%	0.000%	0.000%	0.000%	-0.642%	0.000%	0.000%	0.000%	0.000%	0.004%
Slovenia	0.000%	1144.412%	-0.001%	0.001%	0.000%	3.372%	0.000%	-4.422%	0.013%	-0.005%	0.070%	-0.016%	0.000%	0.000%	0.000%
South Africa	0.628%	-0.026%	0.025%	-2.219%	-0.006%	-0.001%	0.000%	-0.012%	0.006%	0.003%	-0.002%	0.003%	-0.001%	0.000%	0.001%
Spain	0.000%	0.000%	0.000%	0.000%	0.000%	0.513%	0.048%	-2.471%	0.000%	0.000%	0.000%	0.000%	0.000%	0.000%	0.000%
Sri Lanka	-0.123%	-1.317%	-0.296%	-5.844%	-0.030%	0.000%	0.000%	0.000%	-0.022%	-31.178%	2.911%	3.187%	8.994%	-1.247%	0.175%
Suriname	0.014%	0.263%	0.227%	-1.512%	0.003%	1.111%	-0.056%	-0.522%	0.079%	-0.099%	0.077%	0.117%	0.068%	-4.939%	-0.315%
Sweden	0.033%	0.000%	0.000%	0.002%	0.000%	-0.437%	-0.031%	-0.063%	-0.034%	-0.225%	0.000%	0.000%	0.000%	0.000%	0.000%
Switzerland	-0.011%	0.005%	0.003%	0.022%	0.311%	-0.314%	0.000%	0.464%	0.068%	0.000%	0.000%	0.000%	0.000%	0.000%	0.000%
Syria	0.000%	0.000%	0.000%	0.000%	0.000%	0.000%	0.000%	0.000%	0.011%	0.000%	0.000%	0.000%	0.000%	0.000%	0.000%
Taiwan	0.008%	0.000%	0.017%	-0.046%	0.012%	0.013%	0.002%	0.000%	0.009%	0.000%	0.000%	-0.001%	-0.010%	0.000%	0.000%
Tajikistan	1.037%	-0.756%	1.073%		-0.120%	1.972%	-0.430%	-0.748%	0.121%	-0.039%	6.244%	-1.721%	0.982%	-2.321%	-0.470%
Thailand	-0.059%	-0.058%	0.007%	-0.485%	-0.098%	0.000%	0.000%	0.000%	0.000%	0.000%	-0.611%	-0.843%	0.000%	0.000%	0.000%
Trinidad and Tobago	0.006%	0.012%	0.003%	0.028%	0.000%	-0.001%	0.000%	-0.001%	-0.001%	0.016%	0.005%	0.001%	0.001%	0.003%	-4.372%
Tunisia	0.022%	0.004%	-0.001%	0.002%	0.000%	0.000%	0.000%	0.000%	-0.003%	0.000%	0.058%	0.000%	0.000%	0.180%	0.000%
Turkey	-0.002%	-0.001%	0.000%	0.000%	0.000%	0.000%	0.000%	0.000%	0.000%	0.000%	0.000%	0.189%	-0.474%	-0.749%	0.025%
Ukraine	0.006%	0.006%	-3.380%	2.011%	-0.296%	-0.721%	-0.012%	-0.159%	0.010%	-0.005%	-0.008%	-0.001%	0.077%	0.540%	0.194%
United Arab Emirates	0.000%	0.000%	0.000%	2.444%											
United Kingdom	-0.087%	-0.099%	-0.779%	-0.015%	0.008%	-0.002%	-0.006%	0.000%	0.000%	0.000%	0.000%	0.000%	0.000%	0.000%	0.000%
United States	0.001%	-0.012%	0.000%	-0.016%	-0.001%	-0.004%	0.000%	0.000%	0.000%	0.000%	0.000%	0.000%	0.000%	0.000%	0.000%
Uruguay	-1.272%	0.995%	-0.337%	0.001%	0.024%	-0.185%	0.019%	-0.043%	0.000%	0.000%	0.071%	-0.023%	0.002%	0.017%	-0.006%
Venezuela	-0.132%	0.135%	0.087%	0.066%	0.002%	0.010%	0.003%	-0.007%	-0.001%	-0.127%	0.053%	0.130%	0.037%	0.044%	0.000%
Yemen	0.000%	0.000%	0.000%	0.000%	0.000%	0.000%	0.000%	0.000%	0.000%	0.000%	0.000%	0.000%	0.000%	0.000%	0.000%

[7] Blank cells in the table indicate that a country has not reported data on gold holdings for a particular time period (and that the World Gold Council does not have available data on gold holdings for that particular country and time period). Cells with a 0% value mostly indicate that a country has not transacted gold in a particular year. While it would be mathematically possible (from the formula used in the calculations) for a country to transact gold in a particular year and still obtain a 0% value in yearly gold reserves financial performance, this possibility is remote as the financial performance metric used in this table measures financial performance exclusively in terms of transaction timing.

Figure 58: Top gold reserves financial performers (monetary value Q1 2000-Q3 2014)

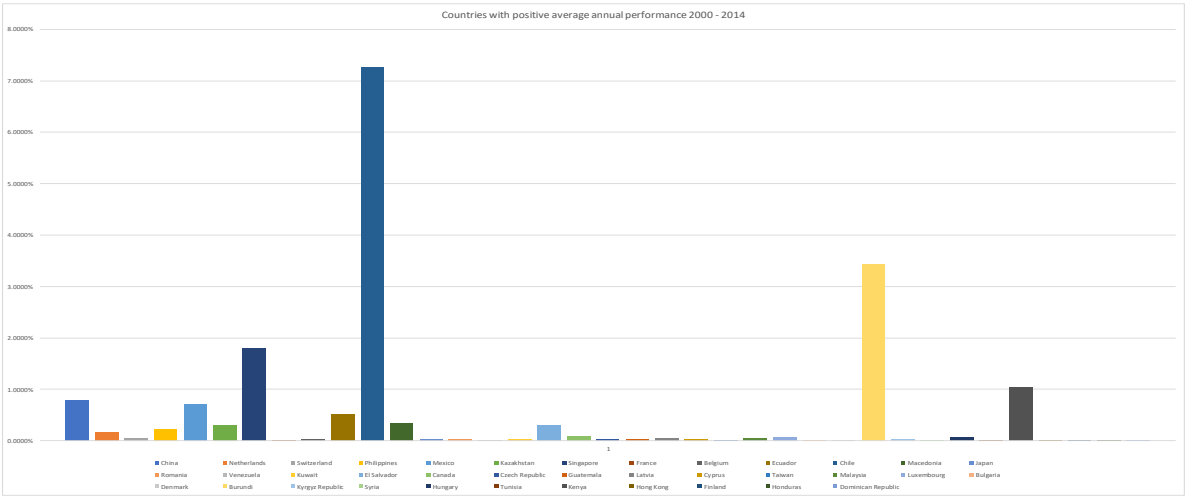
RANKING MONETARY VALUE ALL YEARS	COUNTRY	ANNUAL AVERAGE	MONETARY VALUE (millions of USD)	CUMULATIVE ALL YEARS	MONETARY VALUE (millions of USD)
1	Slovenia	103.9453%	132.9061	1143.398%	1,461.967
2	China	0.7797%	166.9622	2.339%	500.887
3	Netherlands	0.1682%	34.4924	1.346%	275.939
4	Switzerland	0.0456%	18.7283	0.548%	224.739
5	Philippines	0.2062%	11.4385	3.093%	171.578
6	Mexico	0.6999%	6.9795	10.498%	104.692
7	Kazakhstan	0.2917%	6.3893	4.376%	95.839
8	Singapore	1.7972%	64.1600	1.797%	64.160
9	France	0.0065%	5.1284	0.078%	61.541
10	Belgium	0.0202%	1.4016	0.202%	14.016
11	Ecuador	0.5118%	3.8303	1.535%	11.491
12	Chile	7.2663%	2.3131	29.065%	9.252
13	Macedonia	0.3284%	0.5784	3.941%	6.941
14	Japan	0.0134%	2.9781	0.027%	5.956
15	Romania	0.0112%	0.3385	0.145%	4.400
16	Venezuela	0.0023%	0.2393	0.033%	3.350
17	Kuwait	0.0187%	0.4280	0.131%	2.996
18	El Salvador	0.2940%	0.8440	0.882%	2.532
19	Canada	0.0793%	0.2245	0.396%	1.123
20	Czech Republic	0.0166%	0.0625	0.232%	0.875
21	Guatemala	0.0291%	0.0578	0.378%	0.752
22	Latvia	0.0491%	0.1093	0.245%	0.546
23	Cyprus	0.0187%	0.0771	0.131%	0.540
24	Taiwan	0.0004%	0.0498	0.004%	0.498
25	Malaysia	0.0375%	0.3953	0.038%	0.395
26	Luxembourg	0.0694%	0.0463	0.417%	0.278
27	Bulgaria	0.0010%	0.0120	0.015%	0.179
28	Denmark	0.0008%	0.0164	0.008%	0.164
29	Burundi	3.4301%	0.0809	6.860%	0.162
30	Kyrgyz Republic	0.0152%	0.0120	0.183%	0.144
31	Syria	0.0107%	0.0800	0.011%	0.080
32	Hungary	0.0540%	0.0484	0.054%	0.048
33	Tunisia	0.0013%	0.0025	0.016%	0.030
34	Kenya	1.0312%	0.0045	3.093%	0.014
35	Hong Kong	0.0080%	0.0048	0.016%	0.010
36	Finland	0.0003%	0.0045	0.001%	0.009
37	Honduras	0.0018%	0.0004	0.009%	0.002
38	Dominican Republic	0.0015%	0.0002	0.006%	0.001

Figure 59: Bottom gold reserves financial performers (monetary value Q 12000-Q3 2014)

RANKING MONETARY VALUE ALL YEARS	COUNTRY	ANNUAL AVERAGE	MONETARY VALUE (millions of USD)	CUMULATIVE ALL YEARS	MONETARY VALUE (millions of USD)
1	India	-1.16611913%	-143.93941	-5.83059563%	-719.69707
2	Argentina	-4.06616579%	-48.63716	-32.52932632%	-389.09732
3	Spain	-0.23870318%	-27.06069	-1.90962544%	-216.48549
4	Korea	-1.09086651%	-9.29865	-15.27213116%	-130.18117
5	Russia	-0.04388458%	-7.38325	-0.65826873%	-110.74881
6	Saudi Arabia	-1.64470807%	-107.48408	-1.64470807%	-107.48408
7	Portugal	-0.07681464%	-10.01709	-0.76814643%	-100.17090
8	United Kingdom	-0.09788793%	-9.43201	-0.97887931%	-94.32009
9	Brazil	-0.58386538%	-7.29373	-6.42251918%	-80.23107
10	United States	-0.00273599%	-6.45656	-0.03283188%	-77.47875
11	Austria	-0.11283029%	-9.91278	-0.78981200%	-69.38943
12	Sri Lanka	-2.06584091%	-5.63404	-24.79009091%	-67.60851
13	South Africa	-0.11459487%	-4.47013	-1.60432811%	-62.58188
14	Thailand	-0.30685357%	-8.77362	-2.14797496%	-61.41535
15	Turkey	-0.11237177%	-5.60729	-1.01134595%	-50.46565
16	Bolivia	-0.58175418%	-5.38426	-4.07227923%	-37.68981
17	Sweden	-0.10810885%	-4.84545	-0.75676195%	-33.91815
18	Mozambique	-2.37084271%	-1.87186	-35.56264066%	-28.07786
19	Bangladesh	-0.72316787%	-1.33694	-9.40118225%	-17.38022
20	Ukraine	-0.11586632%	-0.84058	-1.73799476%	-12.60865
21	Laos	-1.02846886%	-1.78092	-7.19928205%	-12.46646
22	Slovakia	-0.27621387%	-2.74310	-0.82864162%	-8.22929
23	Germany	-0.00045772%	-0.45436	-0.00640809%	-6.36102
24	Mauritius	-1.15286736%	-0.87921	-8.07007154%	-6.15445
25	Jordan	-0.10860628%	-0.41514	-1.41188165%	-5.39685
26	Colombia	-0.19885088%	-0.51998	-1.78965791%	-4.67986
27	Qatar	-0.56532914%	-1.10082	-2.26131657%	-4.40326
28	Pakistan	-0.02116811%	-0.39890	-0.23284916%	-4.38793
29	Suriname	-0.36566185%	-0.26168	-5.48492775%	-3.92517
30	Indonesia	-0.03623354%	-0.88334	-0.14493416%	-3.53337
31	Greece	-0.00608710%	-0.20179	-0.09130649%	-3.02687
32	Trinidad and Tobago	-0.28702536%	-0.15588	-4.30538047%	-2.33824
33	Libya	-0.05230743%	-2.09822	-0.05230743%	-2.09822
34	Haiti	-5.63014024%	-0.40945	-16.89042073%	-1.22834
35	Uruguay	-0.04909989%	-0.05628	-0.73649841%	-0.84415
36	Albania	-0.04388717%	-0.02771	-0.61442037%	-0.38798
37	Oman	-0.19299272%	-0.07809	-0.77197087%	-0.31237
38	Myanmar	-0.14702654%	-0.30839	-0.14702654%	-0.30839
39	Costa Rica	-0.99191753%	-0.01792	-14.87876288%	-0.26874
40	Iceland	-0.03344754%	-0.01905	-0.36792298%	-0.20955
41	Morocco	-0.00250770%	-0.01602	-0.02256934%	-0.14416
42	Poland	-0.00052077%	-0.01554	-0.00468690%	-0.13988
43	Ireland	-0.02689396%	-0.04454	-0.08068189%	-0.13361
44	Malta	-0.16612773%	-0.00985	-1.99353272%	-0.11822
45	Peru	-0.00222092%	-0.02230	-0.00666275%	-0.06691
46	Mauritania	-0.56393684%	-0.05653	-0.56393684%	-0.05653
47	Lithuania	-0.00438342%	-0.00737	-0.02630050%	-0.04424
48	Fiji	-4.65797415%	-0.03333	-4.65797415%	-0.03333
49	Australia	-0.00009080%	-0.00210	-0.00081720%	-0.01891
50	Egypt	-0.00003760%	-0.00082	-0.00026317%	-0.00577
51	Ghana	-0.00177371%	-0.00449	-0.00177371%	-0.00449
52	Malawi	-0.01081626%	-0.00125	-0.03244877%	-0.00376
53	Cambodia	-0.00010312%	-0.00037	-0.00041247%	-0.00149
54	Italy	-0.00000001%	-0.00001	-0.00000001%	-0.00001

The differences between the performance rankings obtained in the first and second research methodologies are due to the fact that the original methodology considers the average price of gold sold minus the average price of gold bought for the whole period 2000 - 2014, while this methodology offers more granularity by taking into consideration whether countries bought or sold gold at the right time within 1 year.

Figure 60: Countries with positive average annual performance 2000 – 2014



Slovenia, with an annual average performance of over 103%, has been excluded from the graph to facilitate the presentation of the other countries´ values. However, it must be noted that Slovenia´s extraordinary performance is the results of several well time gold transactions, which make this country the top performer for the period 2000 – 2014.

Figure 61: Countries with negative average annual performance 2000 – 2014

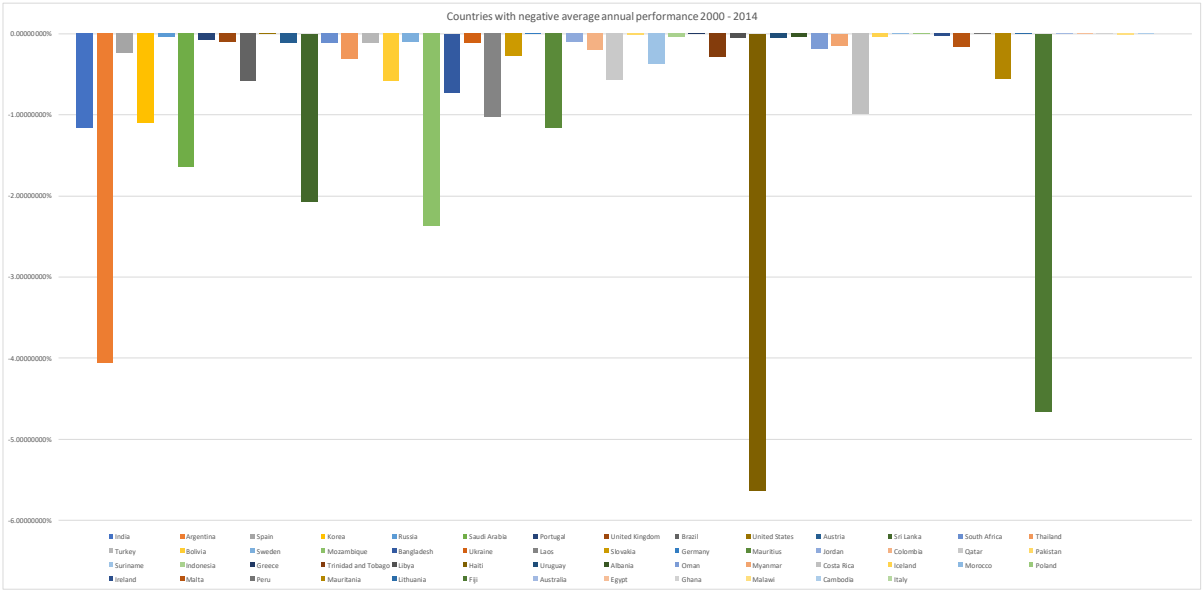


Figure 62: Top and bottom 10 gold reserves financial performing countries by year (2000 - 2014)

COUNTRY	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014
Afghanistan										0.000%	0.000%	0.000%	0.000%	0.000%	0.000%
Albania	-0.134%	0.005%	1.823%	-1.640%	0.000%	0.000%	0.000%	0.000%	-0.670%	0.000%	0.000%	0.000%	0.000%	0.000%	0.000%
Algeria		0.000%	0.000%	0.000%	0.000%	0.000%	0.000%	0.000%	0.000%	0.000%	0.000%	0.000%	0.000%	0.000%	0.000%
Argentina	-28.248%	-0.697%	0.274%	0.307%	-3.322%	-0.027%	0.000%	0.000%	0.000%	0.000%	0.000%	-0.817%	0.000%	0.000%	0.000%
Armenia	-0.063%	-0.013%	0.000%	12.132%											
Aruba	0.000%	0.000%	0.000%	0.000%	0.000%	0.000%	0.000%	0.000%	0.000%	0.000%	0.000%	0.000%	0.000%	0.000%	0.000%
Australia	0.001%	0.000%	0.000%	0.000%	-0.001%	-0.004%	0.000%	0.004%	-0.001%	0.001%	0.000%	0.000%	0.000%	0.000%	0.000%
Austria	-0.143%	-0.539%	-0.078%	0.000%	0.098%	0.028%	-0.064%	-0.093%	0.000%	0.000%	0.000%	0.000%	0.000%	0.000%	0.000%
Bahrain	0.000%	0.000%	0.000%	0.000%	0.000%	0.000%	0.000%	0.000%	0.000%	0.000%	0.000%	0.000%	0.000%	0.000%	0.000%
Bangladesh	-0.029%	0.028%	0.006%	-0.037%	-0.014%	0.000%	0.001%	-0.027%	-0.001%	0.001%	-9.404%	0.000%	0.000%	0.000%	0.073%
Belarus			6.073%	2.462%	1.015%	-9.620%	-1.515%	-0.518%	-1.503%	0.309%	-6.469%	-0.625%	0.249%	-0.023%	-0.047%
Belgium	0.000%	-0.001%	0.000%	-0.003%	0.001%	0.199%	0.000%	0.001%	0.000%	0.000%	0.000%	0.001%	0.000%	0.002%	0.000%
Bolivia	-0.001%	0.000%	-0.184%	0.000%	0.000%	0.000%	0.000%	0.000%	0.000%	0.000%	-2.656%	-1.266%	0.000%	0.035%	0.000%
Bosnia and Herzegovina										6.137%	0.807%	1.086%	0.000%	-5.758%	0.000%
Brazil	-1.208%	-6.467%	0.059%	0.003%	-0.001%	0.001%	0.000%	-0.001%	-0.001%	0.000%	0.000%	0.000%	1.193%	0.000%	0.000%
Bulgaria	0.000%	0.002%	-0.010%	0.006%	0.002%	0.002%	-0.001%	-0.001%	0.018%	0.002%	-0.001%	0.000%	0.000%	0.000%	-0.001%
Burundi	0.000%	6.860%	0.000%	0.000%	0.000%	0.000%	0.000%	0.000%	0.000%	0.000%	0.000%	0.000%	0.000%	0.000%	0.000%
Cambodia	0.000%	0.000%	0.000%	0.000%	0.000%	0.000%	0.000%	0.000%	0.000%	0.000%	0.000%	0.000%	0.000%	0.000%	0.000%
Cameroon	0.000%	0.000%	0.000%	0.000%	0.000%	0.000%	0.000%	0.000%	0.000%						
Canada	0.774%	0.069%	0.555%	-1.747%	0.000%	0.000%	0.000%	0.000%	0.000%	0.000%	0.000%	0.000%	0.000%	0.746%	0.000%
Central African Rep.	0.000%	0.000%	0.000%	0.000%	0.000%	0.000%	0.000%	0.000%	0.000%						
Chad	0.000%	0.000%	0.000%	0.000%	0.000%	0.000%	0.000%	0.000%	0.000%						
Chile	62.212%	-0.003%	-30.947%	0.000%	0.000%	-2.197%	0.000%	0.000%	0.000%	0.000%	0.000%	0.000%	0.000%	0.000%	0.000%
China	0.000%	-0.133%	-1.344%	0.000%	0.000%	0.000%	0.000%	0.000%	0.000%	3.816%	0.000%	0.000%	0.000%	0.000%	0.000%
Colombia	-0.002%	0.000%	0.000%	-0.006%	0.000%	0.001%	0.316%	-0.003%	0.001%	0.000%	0.000%	-2.096%	0.000%	0.000%	0.000%
Comoros	0.000%	0.000%	0.000%	0.000%	0.000%	0.000%	0.000%	0.000%	0.000%	0.000%	0.000%	0.000%	0.000%	0.000%	0.000%
Congo	0.000%	0.000%	0.000%	0.000%	0.000%	0.000%	0.000%	0.000%	0.000%						
Costa Rica	-0.517%	-0.233%	-0.396%	-2.117%	0.265%	0.858%	-3.298%	-7.047%	0.322%	-0.472%	-0.201%	0.741%	-0.255%	-1.718%	-0.810%
Croatia															
Cyprus	0.002%	-0.005%	0.015%	-0.005%	0.001%	0.000%	0.000%	0.000%	0.128%	0.000%	0.000%	0.000%	0.000%	0.000%	-0.003%
Czech Republic	0.000%	0.002%	-0.013%	0.021%	0.014%	0.013%	-0.001%	-0.016%	0.012%	-0.036%	-0.119%	0.020%	0.319%	0.050%	-0.034%
Denmark	0.000%	0.000%	0.003%	0.005%	0.000%	0.000%	0.000%	0.000%	0.000%	0.000%	0.000%	0.000%	0.000%	0.000%	0.000%
Dominican Republic	-0.099%	0.101%	0.001%	0.003%	0.000%	0.000%	0.000%	0.000%	0.000%	0.000%	0.000%	0.000%	0.000%	0.000%	0.000%
Ecuador	0.000%	0.000%	0.000%	0.000%	0.000%	0.000%	-0.003%	0.000%	0.000%	0.000%	0.000%	0.000%	0.000%	0.000%	1.539%
Egypt	0.000%	0.000%	-0.001%	0.000%	0.000%	0.000%	0.000%	0.000%	0.000%	0.000%	0.000%	0.000%	0.000%	0.001%	0.000%
El Salvador	0.000%	0.000%	0.000%	0.000%	0.332%	0.470%	0.080%	0.000%	0.000%	0.000%	0.000%	0.000%	0.000%	0.000%	0.000%
Eritrea	-2.145%	0.000%	0.183%												
Estonia	0.000%	0.000%	0.000%	0.000%	0.000%	0.000%	0.000%	0.000%	0.000%	0.000%	0.000%	0.000%	0.000%	0.000%	0.000%
Fiji	0.000%	0.000%	0.000%	0.000%	0.000%	0.000%	0.000%	0.000%	0.000%	0.000%	0.000%	0.000%	0.000%	0.000%	-4.658%
Finland	0.000%	0.000%	0.000%	0.000%	-0.003%	0.000%	0.000%	0.000%	0.000%	0.000%	0.000%	0.000%	0.000%	0.000%	0.000%
France	0.000%	0.000%	0.000%	0.000%	0.040%	0.054%	0.021%	0.074%	0.000%	-0.110%	0.000%	0.000%	0.000%	0.000%	0.000%
Gabon	0.000%	0.000%	0.000%	0.000%	0.000%	0.000%	0.000%	0.000%	0.000%						
Germany	0.000%	0.025%	-0.015%	-0.001%	0.001%	-0.008%	0.001%	-0.003%	0.001%	-0.004%	0.007%	0.000%	-0.003%	-0.010%	0.002%
Ghana	0.000%	-0.002%	0.000%	0.000%	0.000%	0.000%	0.000%	0.000%	0.000%	0.000%	0.000%	0.000%	0.000%	0.000%	0.000%
Greece	0.000%	-0.481%	0.017%	0.568%	-0.002%	0.000%	-0.119%	-0.021%	-0.017%	-0.010%	-0.011%	-0.009%	0.000%	-0.005%	-0.001%
Guatemala	-0.031%	-0.044%	0.107%	0.151%	0.011%	0.170%	0.000%	0.016%	0.008%	0.005%	0.000%	-0.003%	0.257%	-0.268%	0.000%
Haiti	0.000%	0.000%	0.000%	0.000%	0.000%	-0.004%	0.000%	0.000%	0.000%	0.000%	0.000%	0.000%	0.000%	-16.886%	0.000%
Honduras	0.000%	0.000%	0.000%	0.000%	0.000%	0.000%	0.000%	0.000%	0.000%	0.000%	0.000%	0.008%	0.000%	0.007%	-0.006%
Hong Kong	0.000%	0.000%	0.000%	0.000%	-0.003%	0.019%	0.000%	0.000%	0.000%	0.000%	0.000%	0.000%	0.000%	0.000%	0.000%
Hungary	0.000%	0.000%	0.000%	0.000%	0.054%	0.000%	0.000%	0.000%	0.000%	0.000%	0.000%	0.000%	0.000%	0.000%	0.000%
Iceland	0.000%	-0.255%	-0.035%	0.021%	-0.020%	0.014%	0.001%	-0.086%	-0.005%	0.000%	-0.003%	0.000%	0.000%	0.000%	0.000%
India	0.000%	0.000%	0.000%	0.000%	0.000%	0.000%	0.000%	0.000%	0.000%	-5.830%	0.000%	0.000%	0.000%	0.000%	0.000%
Indonesia	0.000%	0.000%	0.000%	0.000%	0.000%	0.001%	0.014%	0.000%	0.000%	0.000%	0.000%	0.000%	0.020%	-0.180%	0.000%
Iraq						0.000%	0.000%	0.000%	0.000%	0.000%	0.000%	0.000%	-23.539%	3.476%	-6.479%
Ireland	0.000%	0.000%	0.000%	0.000%	0.000%	0.000%	0.000%	0.285%	-0.260%	-0.106%	0.000%	0.000%	0.000%	0.000%	0.000%
Italy	0.000%	0.000%	0.000%	0.000%	0.000%	0.000%	0.000%	0.000%	0.000%	0.000%	0.000%	0.000%	0.000%	0.000%	0.000%
Japan	0.023%	0.003%	0.000%	0.000%	0.000%	0.000%	0.000%	0.000%	0.000%	0.000%	0.000%	0.000%	0.000%	0.000%	0.000%
Jordan	-0.012%	-0.002%	0.004%	0.013%	0.000%	0.001%	0.004%	-1.807%	-0.232%	0.008%	0.000%	0.000%	0.247%	0.449%	-0.084%
Kazakhstan	0.000%	-0.009%	-0.149%	3.901%	-0.089%	0.026%	-0.200%	-0.864%	0.150%	0.219%	0.418%	0.098%	0.270%	-0.039%	0.643%
Kenya	1.797%	0.000%	-0.369%	0.000%	0.000%	0.000%	0.000%	0.000%	0.000%	0.000%	0.000%	0.000%	0.000%	1.666%	0.000%
Korea	0.004%	-0.012%	0.006%	0.027%	-0.008%	0.029%	0.316%	-0.259%	0.001%	0.007%	-0.004%	-10.778%	-1.292%	-3.308%	0.000%
Kuwait	0.000%	-0.016%	0.000%	0.000%	0.000%	0.000%	0.000%	0.000%	0.000%	0.000%	0.000%	0.147%	0.000%	0.000%	0.000%
Kyrgyz Republic	0.000%	0.000%	0.000%	0.001%	0.000%	0.000%	0.000%	0.000%	0.000%	0.000%	0.001%	0.003%	0.040%	0.183%	-0.045%
Laos	11.182%	-23.403%	0.000%	3.737%	0.000%	1.239%	0.456%	0.000%	-0.398%	0.000%	0.000%	0.000%	0.000%	-0.013%	0.000%
Latvia	0.010%	0.003%	0.000%	0.000%	0.000%	0.002%	-0.004%	0.000%	0.000%	0.000%	0.000%	0.000%	0.000%	0.000%	0.239%
Lebanon	0.000%	0.000%	0.000%	0.000%	0.000%	0.000%	0.000%	0.000%	0.000%	0.000%	0.000%	0.000%	0.000%	0.000%	0.000%
Libya	0.000%	0.000%	0.000%	0.000%	0.000%	0.000%	0.000%	0.000%	0.000%	0.000%	0.000%	-0.052%	0.000%	0.000%	0.000%
Lithuania	0.000%	-0.003%	0.003%	0.000%	0.000%	0.000%	0.000%	-0.040%	0.003%	0.010%	0.000%	0.000%	0.000%	0.000%	0.000%
Luxembourg	0.000%	0.000%	0.000%	0.252%	-0.014%	0.000%	0.061%	0.000%	0.015%	0.143%	0.000%	0.000%	0.000%	0.000%	-0.041%
Macedonia	0.061%	1.052%	0.022%	2.659%	1.219%	-1.077%	0.000%	0.000%	0.000%	0.000%	0.000%	0.002%	0.000%	0.000%	0.004%
Malawi	0.000%	0.000%	0.000%	0.000%	0.000%	0.000%	0.000%	0.000%	-0.007%	0.000%	0.000%	0.000%	0.000%	-0.025%	0.000%
Malaysia	0.000%	0.000%	0.000%	0.000%	0.000%	0.000%	0.000%	0.000%	0.000%	0.000%	0.000%	0.000%	0.000%	0.000%	0.038%
Malta	-0.818%	-0.124%	-2.200%	0.921%	-0.281%	0.000%	2.508%	-24.149%	4.877%	10.177%	3.360%	2.716%	0.000%	0.000%	1.020%
Mauritania	0.000%	0.000%	0.000%	0.000%	-0.564%	0.000%	0.000%	0.000%	0.000%	0.000%	0.000%	0.000%	0.000%	0.000%	0.000%
Mauritius	0.000%	0.000%	0.000%	0.000%	0.000%	0.000%	0.000%	0.000%	0.008%	-10.908%	0.000%	0.000%	0.053%	0.577%	2.216%
Mexico	-1.550%	-0.252%	-0.288%	-0.195%	0.449%	-0.933%	0.943%	1.670%	3.312%	2.364%	0.137%	4.768%	0.102%	-0.011%	-0.018%
Mongolia	-0.043%	1.379%	-12.356%	8.145%	4.171%	20.165%	-1.170%	-9.629%	1.173%		-17.271%	-0.706%	-0.165%	-7.145%	3.911%
Morocco	0.000%	-0.001%	-0.002%	0.000%	0.000%	0.000%	0.000%	0.000%	0.000%	-0.015%	-0.005%	0.000%	0.000%	0.000%	0.000%
Mozambique	-0.915%	4.510%	6.558%	4.606%	-56.951%	-1.696%	-0.111%	2.592%	0.001%	0.565%	0.002%	0.018%	0.143%	2.790%	2.326%
Myanmar	0.000%	0.000%	0.000%	0.000%	0.000%	0.000%	0.000%	-0.147%	0.000%	0.000%	0.000%	0.000%	0.000%	0.000%	0.000%
Nepal	0.000%	0.001%	0.000%	0.000%	0.000%	-1.161%	-1.033%				0.000%	0.885%	-1.016%	-1.028%	0.496%
Netherlands	0.000%	0.195%	0.173%	0.781%	0.000%	-0.093%	-0.124%	0.450%	-0.036%	0.000%	0.000%	0.000%	0.000%	0.000%	0.000%
Netherlands Antilles	0.000%	0.000%	0.000%	0.000%	0.000%	0.000%	0.000%	0.000%	0.000%	0.000%	10.736%				
Nicaragua		-0.001%	0.000%	0.000%	-1.063%										
Nigeria	0.000%	0.000%	0.000%	0.000%	0.000%	0.000%	0.000%	0.000%	0.000%	0.000%	0.000%	0.000%	0.000%	0.000%	0.000%
Norway	0.021%	0.000%	-0.005%	0.002%											
Oman	0.000%	0.000%	-0.903%	0.000%	0.000%	0.000%	0.000%	0.000%	-0.045%	0.000%	0.000%	0.000%	-0.001%	0.000%	0.177%
Pakistan	0.002%	0.000%	0.001%	-0.008%	-0.003%	0.000%	0.001%	-0.025%	0.000%	0.000%	-0.205%	-0.001%	0.002%	0.000%	0.002%
Papua New Guinea	0.000%	0.000%	0.000%	0.000%	0.000%	0.000%	0.000%	0.000%	0.000%	0.000%	0.000%	0.000%	0.000%	0.000%	0.000%
Paraguay	0.000%	0.000%	0.000%	0.000%	-1.015%				-2.951%	0.000%	0.000%	0.000%	-65.882%	0.000%	0.000%
Peru	0.000%	-0.007%	0.000%	0.000%	0.000%	0.000%	0.000%	0.000%	0.000%	0.000%	0.000%	0.000%	0.000%	0.000%	0.000%
Philippines	-0.018%	-0.272%	-0.176%	0.509%	0.478%	-0.175%	-0.158%	-0.456%	0.418%	0.110%	2.144%	0.684%	-0.020%	0.024%	0.000%
Poland	-0.001%	-0.002%	-0.002%	0.001%	-0.001%	0.000%	0.000%	0.000%	0.000%	0.000%	0.001%	0.000%	0.000%	0.000%	0.000%
Portugal	0.000%	0.000%	0.166%	-1.092%	0.291%	-0.047%	-0.086%	0.001%	0.000%	0.000%	0.000%	0.000%	0.000%	0.000%	0.000%
Qatar	0.000%	0.000%	0.000%	0.000%	-3.662%	-7.456%	0.000%	8.856%	0.001%	0.000%	0.000%	0.000%	0.000%	0.000%	0.000%
Romania	-0.012%	-0.001%	-0.002%	-0.029%	0.001%	0.000%	-0.002%	0.132%	0.000%	0.001%	0.000%	0.000%	0.000%	0.000%	0.000%
Russia	1.153%	-0.126%	-0.044%	-0.075%	0.016%	0.134%	-0.108%	-0.808%	0.184%	-0.880%	-0.169%	0.067%	0.039%	-0.113%	0.071%
Saudi Arabia	0.000%	0.000%	0.000%	0.000%	0.000%	0.000%	0.000%	0.000%	-1.645%	0.000%	0.000%	0.000%	0.000%	0.000%	0.000%
Serbia		2.258%	-5.339%	-0.023%	-0.020%	-0.321%	0.255%	0.041%	0.031%	-0.002%	0.000%	-0.163%	0.050%	-0.136%	-0.045%
Singapore	1.797%	0.000%	0.000%	0.000%	0.000%	0.000%	0.000%	0.000%	0.000%	0.000%	0.000%	0.000%	0.000%	0.000%	0.000%
Slovakia	0.000%	-0.190%	0.000%	0.000%	0.000%	0.000%	0.000%	0.000%	0.000%	-0.642%	0.000%	0.000%	0.000%	0.000%	0.004%
Slovenia	0.000%	1144.412%	-0.001%	0.001%	0.000%	3.372%	0.000%	-4.422%	-0.013%	-0.005%	0.070%	-0.016%	0.000%	0.000%	0.000%
South Africa	0.628%	-0.026%	0.025%	-2.219%	-0.006%	-0.001%	0.000%	-0.012%	0.006%	0.003%	-0.002%	0.003%	-0.001%	0.000%	0.001%
Spain	0.000%	0.000%	0.000%	0.000%	0.000%	0.513%	0.048%	-2.471%	0.000%	0.000%	0.000%	0.000%	0.000%	0.000%	0.000%
Sri Lanka	-0.123%	-1.317%	-0.296%	-5.844%	-0.030%	0.000%	0.000%	0.000%	-0.022%	-31.178%	2.911%	3.187%	8.994%	-1.247%	0.175%
Suriname	0.014%	0.263%	0.227%	-1.512%	0.003%	1.111%	-0.056%	-0.522%	0.079%	-0.099%	0.077%	0.117%	0.068%	-4.939%	-0.315%
Sweden	0.033%	0.000%	0.000%	0.000%	0.000%	-0.437%	-0.031%	-0.063%	-0.034%	-0.225%	0.000%	0.000%	0.000%	0.000%	0.000%
Switzerland	-0.011%	0.005%	0.003%	0.022%	0.311%	-0.314%	0.000%	0.464%	0.068%	0.000%	0.000%	0.000%	0.000%	0.000%	0.000%
Syria	0.000%	0.000%	0.000%	0.000%	0.000%	0.000%	0.000%	0.000%	0.011%	0.000%	0.000%	0.000%	0.000%	0.000%	0.000%
Taiwan	0.008%	0.000%	0.017%	-0.046%	0.012%	0.013%	0.002%	0.000%	0.009%	0.000%	0.000%	-0.001%	-0.010%	0.000%	0.000%
Tajikistan	1.037%	-0.756%	1.073%		-0.120%	1.972%	-0.430%	-0.748%	0.121%	-0.039%	6.244%	-1.721%	0.982%	-2.321%	-0.470%
Thailand	-0.059%	-0.058%	0.007%	-0.485%	-0.098%	0.000%	0.000%	0.000%	0.000%	0.000%	-0.611%	-0.843%	0.000%	0.000%	0.000%
Trinidad and Tobago	0.006%	0.012%	0.003%	0.028%	0.000%	-0.001%	0.000%	-0.001%	-0.001%	0.016%	0.005%	0.001%	0.001%	0.003%	-4.377%
Tunisia	0.022%	0.004%	-0.001%	0.002%	0.000%	0.000%	0.000%	0.000%	-0.003%	0.000%	-0.058%	0.000%	0.000%	0.050%	0.000%
Turkey	-0.002%	-0.001%	0.000%	0.000%	0.000%	0.000%	0.000%	0.000%	0.000%	0.000%	0.000%	0.189%	-0.474%	-0.749%	0.025%
Ukraine	0.006%	0.006%	-3.380%	2.011%	-0.296%	-0.721%	-0.012%	-0.159%	0.010%	-0.005%	-0.008%	-0.001%	0.077%	0.540%	0.194%
United Arab Emirates	0.000%	0.000%	0.000%	2.444%											
United Kingdom	-0.087%	-0.099%	-0.779%	-0.015%	0.008%	-0.002%	-0.006%	0.000%	0.000%	0.000%	0.000%	0.000%	0.000%	0.000%	0.000%
United States	0.001%	-0.012%	0.000%	-0.016%	-0.001%	-0.004%	0.000%	0.000%	0.000%	0.000%	0.000%	0.000%	0.000%	0.000%	0.000%
Uruguay	-1.272%	0.995%	-0.337%	0.001%	0.024%	-0.185%	0.019%	-0.043%	0.000%	0.000%	0.071%	-0.023%	0.002%	0.017%	-0.006%
Venezuela	-0.132%	0.135%	0.087%	0.066%	0.002%	0.010%	-0.003%	-0.007%	-0.001%	-0.127%	0.053%	-0.130%	0.037%	0.044%	0.000%
Yemen	0.000%	0.000%	0.000%	0.000%	0.000%	0.000%	0.000%	0.000%	0.000%	0.000%	0.000%	0.000%	0.000%	0.000%	0.000%

CHAPTER 5: RESULTS

1. Sovereign gold reserves financial performance of developing vs. developed countries for the period 2000 – 2014: cross-section study

The overarching theory behind this study is that countries with more resources available to manage their gold reserves must be able to obtain superior financial results from those reserves.

Derived from this theory is the main hypothesis that has be tested in this study: whether developed nations systematically achieve superior financial results in the management of their sovereign gold reserves when compared to those obtained by developing countries.

As discussed in the previous chapter, the variables used to test this hypothesis have been: GDP per capita, GDP per capita ranking, performance and performance ranking. The values of each of these variables corresponding to the 89 countries in the sample are shown in the following table:

Figure 63: Performance, performance ranking, GDP per capita and GDP per capita ranking for sample countries Q1 2000 - Q3 2014

COUNTRY	PERFORMANCE RANKING	PERFORMANCE	GDP PER CAPITA (in USD) EOY 2014	GDP PER CAPITA RANKING	COUNTRY	PERFORMANCE RANKING	PERFORMANCE	GDP PER CAPITA (in USD) EOY 2014	GDP PER CAPITA RANKING
Australia	1	921	62100	6	Tajikistan	46	-28	1104	79
Czech Republic	2	816	19745	25	Mauritania	47	-41	1327	76
Latvia	3	618	15716	29	Finland	48	-45	49915	11
Italy	4	578	35397	16	Denmark	49	-45	62549	5
Trinidad and Tobago	5	570	19325	26	Uruguay	50	-47	16738	27
Chad	6	568	1026	82	Qatar	51	-49	86853	3
Morocco	7	531	3160	68	Cambodia	52	-60	1099	80
Pakistan	8	508	1317	77	Fiji	53	-75	5046	57
Sweden	9	416	59180	7	Luxembourg	54	-77	119225	1
Romania	10	402	10020	42	Belarus	55	-98	8319	44
Mauritius	11	344	10154	41	Chile	56	-103	14817	31
Cyprus	12	340	27401	18	Serbia	57	-120	6200	53
Slovenia	13	316	24202	20	Mozambique	58	-143	623	86
Iceland	14	282	52855	10	Iraq	59	-159	6703	48
Afghanistan	15	230	629	85	Jordan	60	-168	4067	62
Kyrgyz Republic	16	228	1280	78	Portugal	61	-179	22078	22
Ecuador	17	221	6397	51	Philippines	62	-188	2843	71
Norway	18	163	97200	2	Suriname	63	-218	9564	43
Peru	19	160	6491	49	Bulgaria	64	-233	7853	46
Nicaragua	20	143	1975	74	Ukraine	65	-243	3105	70
Armenia	21	142	3995	63	Turkey	66	-256	12127	37
Guatemala	22	114	3688	65	Laos	67	-264	2018	73
Albania	23	110	4579	59	Argentina	68	-275	12245	36
Kuwait	24	94	42996	13	Greece	69	-326	21761	23
South Africa	25	47	6438	50	Honduras	70	-352	2243	72
Macedonia	26	42	5469	54	United Kingdom	71	-377	46783	12
Bosnia and Herzegovina	27	39	5204	56	China	72	-416	7684	47
France	28	37	42955	14	Lithuania	73	-438	16545	28
Tunisia	29	37	4270	60	Kazakhstan	74	-457	12807	35
Poland	30	34	14340	32	Switzerland	75	-485	86606	4
Croatia	31	30	13467	34	Nepal	76	-624	706	84
Costa Rica	32	30	10647	39	Malawi	77	-629	355	88
United States	33	28	54707	9	Mexico	78	-644	10453	40
Venezuela	34	21	15692	30	Indonesia	79	-749	3492	66
Egypt	35	21	3328	67	India	80	-750	1573	75
Burundi	36	19	313	89	Russia	81	-773	14126	33
Sri Lanka	37	15	3821	64	Bangladesh	82	-801	1085	81
Malta	38	10	26249	19	Korea	83	-930	27811	17
Dominican Republic	39	4	6269	52	Colombia	84	-940	7913	45
Algeria	40	2	5466	55	Oman	85	-1009	20458	24
Hong Kong	41	-8	40315	15	Haiti	86	-1116	830	83
Taiwan	42	-14	22668	21	Brazil	87	-1132	12027	38
Ireland	43	-14	55899	8	Bolivia	88	-1193	3124	69
Mongolia	44	-17	4182	61	Paraguay	89	-1241	4713	58
Eritrea	45	-19	582	87					

The values in this table have been compiled/calculated according to the methodology described in the previous chapter of this thesis. For Taiwan, GDP per capita data was not available from the same source used for other countries –the World Bank–. This institution presents only

aggregate data for China, due to political reasons. As a punctual alternative, data have been sourced in this case from CEIC (2018). For Eritrea, GDP per capita data are end of the year 2011 figures, as this is the last data point available in the World Bank database and no alternative sources providing information for later years have been found.

As a first step in the statistical analysis of the data, we have calculated the most common basic descriptive statistics, grouped in three areas: measures of central tendency, measures of dispersion and measures of distribution.

1.1. Measures of central tendency

The values obtained for the measures of central tendency are shown in the following table:

Figure 64: Cross-section - Measures of central tendency

MEASURES OF CENTRAL TENDENCY	Performance	GDP per capita
Mean	-105	18119
Median	-19	7913

In terms of performance, the calculated value for the mean difference between the average price of gold sold and the average price of gold purchased (in end of Q3 USD dollar equivalents per troy ounce) is -105 USD; that is, on average countries in the sample lost 105 USD per ounce on the gold transactions that they undertook from Q1 2000 to Q3 2014. The performance median, which helps reduce the influence of outlying performance values was less negative, at -19 USD.

The calculated mean for GDP per capita values was 18,199 USD, which differs significantly from the median of 7,913. This is due to the existence of outliers in the sample: i.e. very wealthy countries –such as Luxembourg, Norway, Qatar or Switzerland– and nations with an extremely low GDP per capita, such as Burundi, Malawi or Eritrea.

1.2. Measures of dispersion

The values obtained for the measures of dispersion are shown in the following table:

Figure 65: Cross-section - Measures of dispersion

MEASURES OF DISPERSION	Performance	GDP per capita		Performance	GDP per capita
Range	2162	118912	**Standard error**	47	2532
Variance	193840	570382176	**Maximum**	921	119225
Standard deviation	440	23883	**Minimum**	-1241	313

The difference between the top performer and the bottom performer in the sample is expressed by the range, which takes in this case a value of 2,162 (we remind the reader that the unit of measure is USD/ounce). The minimum data point in this range is -1241 USD/ounce and the maximum is 921 USD/ounce. Considering that the mean value for this sample was -105 and the median, -19, the width of the range is quite considerable. The magnitude of the standard deviation –440– also points to a considerable dispersion of the results, as it is roughly equal to four times the value of the mean. The calculated standard error for a sample of 89 countries is 47, indicating that the mean of a sample with this number of countries and a standard deviation of 440 will typically deviate from the mean of the overall population in 47 USD/ounce.

Turning now to our attention to the measures of dispersion calculated for the independent variable GDP per capita we observe that the difference between the wealthiest and the poorest country in substantial: 118,912 USD. The minimum value for GDP per capita in the sample is 313, while 119,225 is the maximum. The standard deviation for this sample also shows a considerable degree of dispersion of the results. The calculated standard error for a sample of 89 countries is 2,532, indicating that the mean of a sample with this number of countries and a standard deviation of 23,883 will typically deviate from the mean of the overall population in 2,532 USD.

1.3. Measures of distribution

The values obtained for the measures of distribution are shown in the following table:

Figure 66: Cross-section - Measures of distribution

MEASURES OF DISTRIBUTION	Performance	GDP per capita
Kurtosis	0.554	4.707
Skewness	-0.560	2.142

Skewness measures the level of asymmetry in a distribution. A positive value indicates that the distribution is skewed to the right, while a negative skewness indicates that the distribution is skewed to the left. A normal distribution would have a skewness value of 0.

In this case, we observe that the performance frequency distribution is moderately skewed to the left of the median –in this case because more than half of the observations appear to the left of the mean, implying that more than half of the countries in the sample have obtained performances that are superior to the mean–. Concerning the frequency distribution of GDP per capita values, it shows considerable skewness towards the right of the median, in this case due to a discrete number of countries with very high GDP per capita (outliers). This can be observed in Figures 20 to 22.

Regarding kurtosis, which measures the degree of concentration of observations around a central point in the distribution, we observe that the performance frequency distribution presents moderately higher kurtosis than a perfect normal distribution, for which the value of the kurtosis is 0. The value of the kurtosis for the DGP per capita frequency distribution in considerably high, as values are highly concentrated around the mean, particularly on the left side, where the GDP per capita value is presents a floor at 0 USD/per capita. When turning our attention to the variable "performance", we observe that kurtosis is only slightly higher than in a perfect normal distribution, which can be appreciated graphically in the figures below.

Figure 67: Cross-section - Performance normal frequency distribution

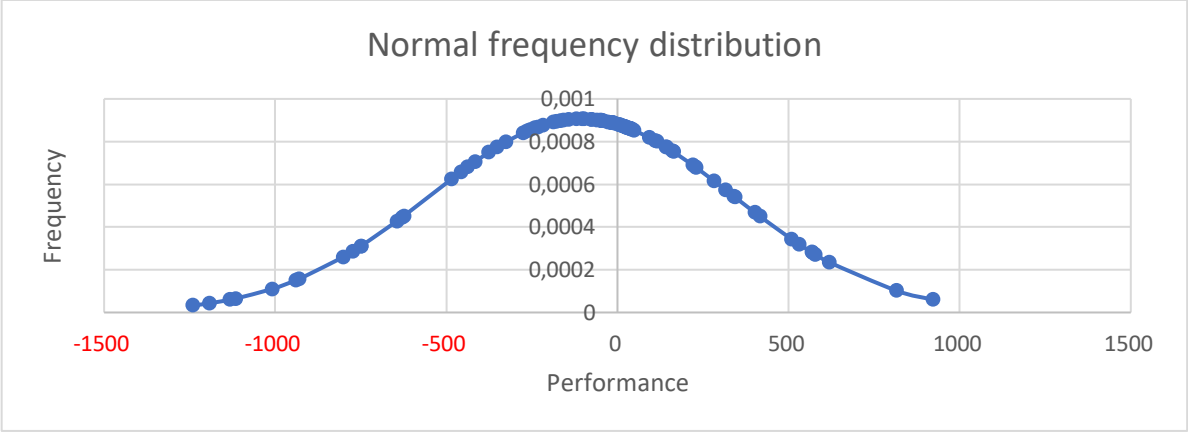


Figure 68: Cross-section - GDP per capita normal frequency distribution

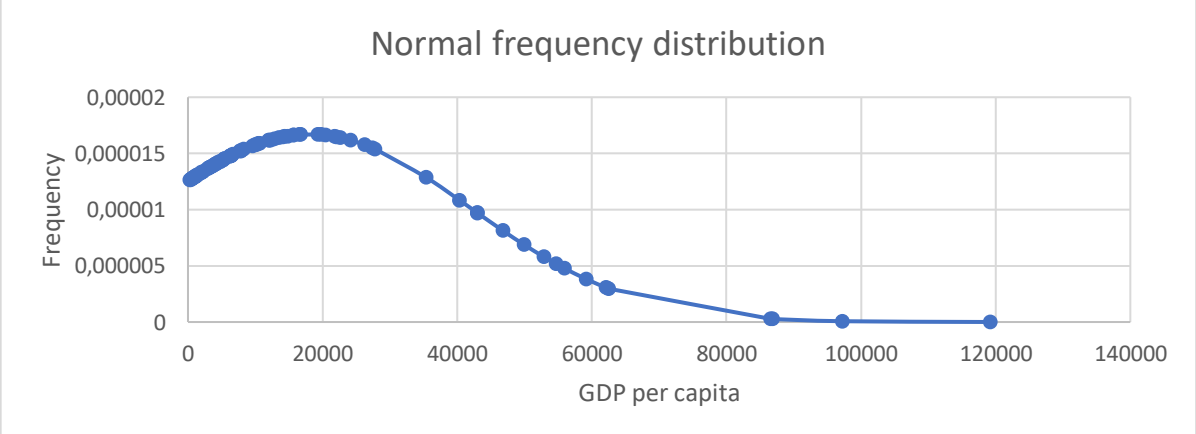


Figure 69: Cross-section - Measures of correlation

CORRELATION	Performance - GDP per capita	Performance ranking - GDP per capita ranking
Pearson´s	0.166367677	0.142424242
Standard error	0.105717135	0.10611831

Figure 70: Cross-section - Simple linear regression: performance-GDP per capita

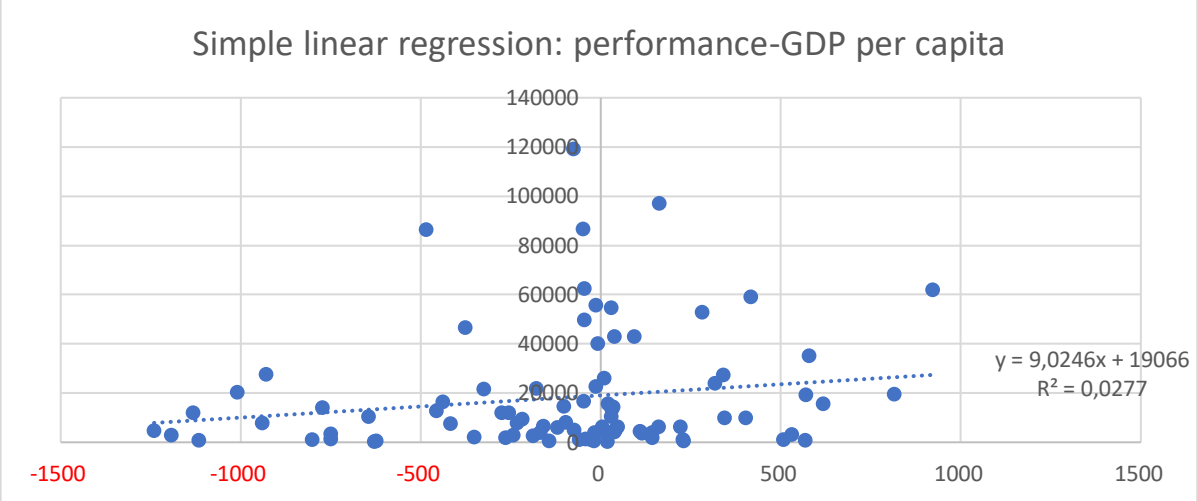
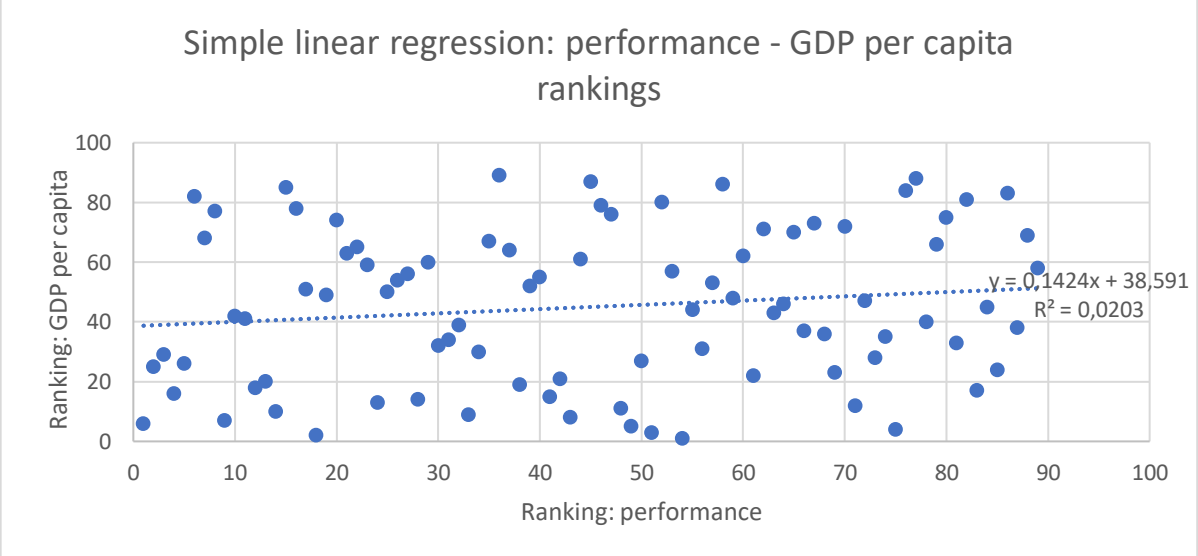


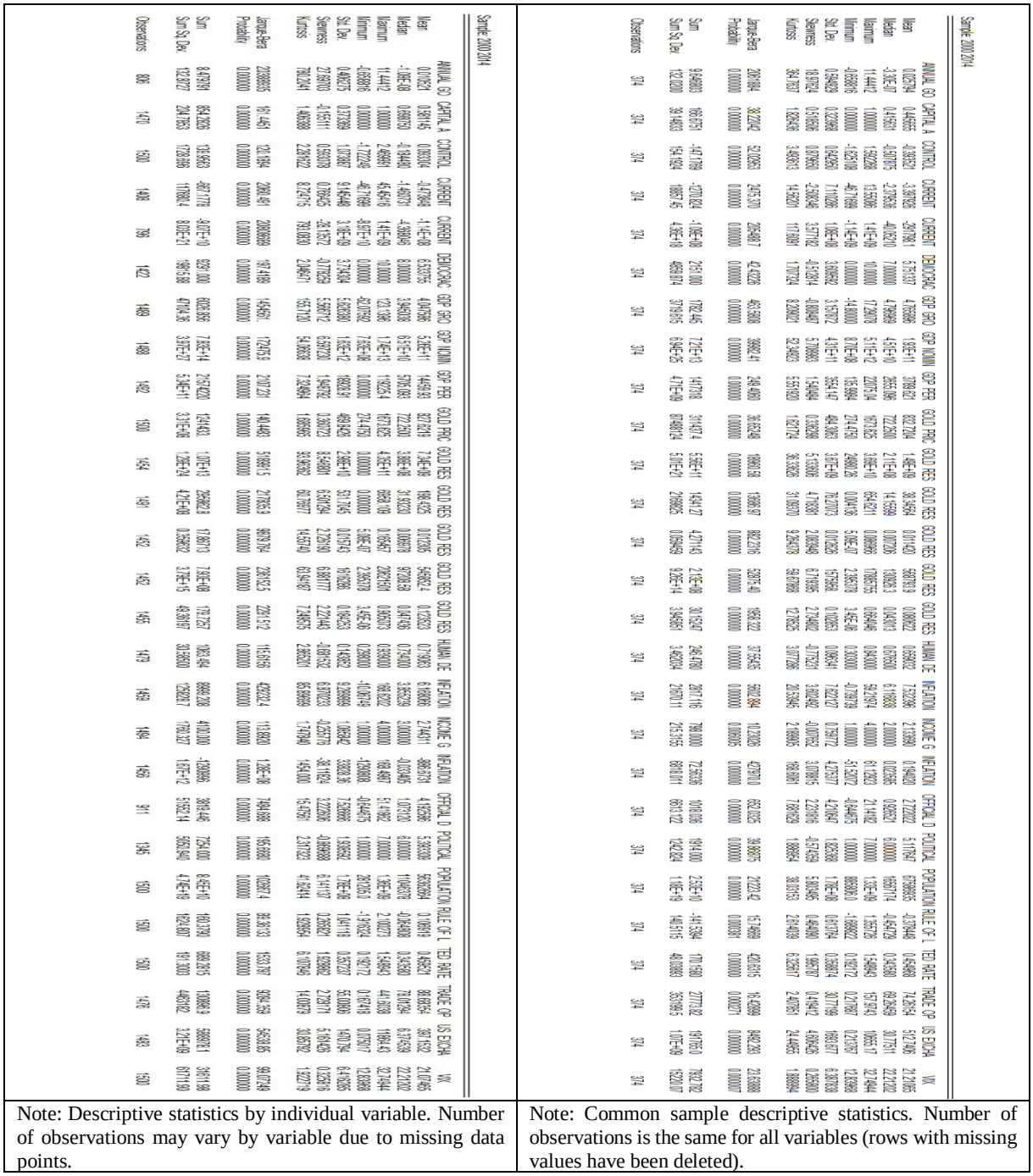
Figure 71: Cross-section - Simple linear regression: performance - GDP per capita rankings



2. Sovereign gold reserves financial performance of developing vs. developed countries for the period 2000 – 2014: panel study

2.1. Descriptive statistics

Figure 72: Panel study - Descriptive statistics



Note: Descriptive statistics by individual variable. Number of observations may vary by variable due to missing data points.

Note: Common sample descriptive statistics. Number of observations is the same for all variables (rows with missing values have been deleted).

2.2. Correlation matrix

In this section two different correlation matrixes are presented (the corresponding heatmaps are reproduced in the appendix).

Certain differences in the coefficients can be observed between one matrix and the other. This is due to the relatively large number of missing observations in the sample used. When balanced sample approach is used, the number of observations decreases from 1500 (second correlation matrix) to 374 (first correlation matrix).

As could be expected, the unbalanced approach yields a larger number of marked correlations due to the fact that the non-deleted rows make the panel richer in terms of information. Therefore, the unbalance approach is more sensitive. However, it is also less specific, due to the missing data points, and correlations identified are not as reliable as those in the balanced panel.

Figure 73: Panel study - Correlation matrix of balanced sample

Correlation	ANNUAL_GOL	CAPITAL_ACC	CONTROL_OF	CURRENT_AC	CURRENT_US	DEMOCRACY	GDP_GROWT	GDP_NOMIN	GDP_PER_CA	GOLD_PRICE	GOLD_RESER	GOLD_RESER	GOLD_RESER	GOLD_RESER	HUMAN_DEV	INFLATION	INCOME_GR	INFLATION_V	OFFICIAL_DEI	POLITICAL_C	POPULATION	RULE_OF_LAI	TED_RATE	TRADE_OPEN	US_EXCHANG	VIX
ANNUAL_GOLD_MANAGEMENT_PERFORMANCE	1																									
CAPITAL_ACCOUNT_OPENNESS	0.037048	1																								
CONTROL_OF_CORRUPTION	0.105924	0.464588	1																							
CURRENT_ACCOUNT_BALANCE	0.023036	-0.076588	0.011265	1																						
CURRENT_USD_GOLD_MANAGEMENT_PROFIT_LOSS	0.390201	0.03355	0.05085	0.015921	1																					
DEMOCRACY_INDEX	0.057526	0.362886	0.440683	-0.123644	-0.057645	1																				
GDP_GROWTH__	-0.0269	-0.07378	-0.165038	-0.168427	-0.004146	-0.20121	1																			
GDP_NOMINAL	-0.015827	-0.079065	0.046204	0.150284	0.324657	0.081296	-0.001809	1																		
GDP_PER_CAPITA__NOMINAL	0.098334	0.212172	0.490532	0.057675	0.053118	0.201335	-0.105282	0.298582	1																	
GOLD_PRICE_CURRENT_USD_	-0.066971	-0.110166	-0.126244	-0.208494	-0.044176	0.033741	0.062356	0.116741	0.36317	1																
GOLD_RESERVES_CURRENT_USD_	-0.017775	-0.21646	-0.066392	0.150534	0.173271	-0.032262	0.070913	0.629324	0.265727	0.27258	1															
GOLD_RESERVES_PER_CAPITA	-0.005584	-0.157907	-0.104291	0.038014	-0.020732	-0.177016	-0.001826	0.0519	0.451324	0.379308	0.554222	1														
GOLD_RESERVES_TO_GDP	-0.039264	-0.093357	-0.126122	0.017084	-0.046514	-0.214279	0.130611	-0.131197	-0.110214	0.246005	0.276786	0.560178	1													
GOLD_RESERVES_TO_GDP_CAPITA	-0.018523	-0.196698	-0.097706	0.152019	-0.115275	0.031895	0.111581	0.470495	-0.119535	0.052168	0.651807	0.866384	0.16303	1												
GOLD_RESERVES_TO_TOTAL_RESERVES	-0.035832	-0.288604	-0.359674	0.001735	-0.039141	-0.328036	0.091978	-0.104711	-0.050211	0.185145	0.286756	0.561253	0.694798	0.898023	1											
HUMAN_DEVELOPMENT_INDEX_HDI_	0.092776	0.291097	0.45914	0.04691	0.069581	0.206774	-0.05223	0.146145	0.688233	0.20774	0.13065	0.326779	-0.021474	-0.148135	-0.054707	1										
INFLATION	0.000632	-0.121269	-0.111479	-0.074515	-0.041634	-0.087153	-0.025411	-0.081102	0.039638	0.066636	0.040198	0.206479	0.078725	-0.045663	0.230609	0.01307	1									
INCOME_GROUP	0.126649	0.259817	0.610048	0.077988	0.032488	0.302494	-0.180875	0.225039	0.820716	0.173453	0.169571	0.303832	-0.161767	-0.09803	-0.145762	0.778769	-0.004037	1								
INFLATION_VOLATILITY	-0.001377	0.064136	0.000765	-0.011716	-0.009372	0.006966	0.157532	-0.038466	-0.039149	-0.092845	-0.032358	-0.009721	0.010498	-0.022862	-0.024609	-0.041885	0.014939	-0.022698	1							
OFFICIAL_DEVELOPMENT_AID___GDP_	-0.023427	-0.021479	-0.279147	-0.345183	-0.004327	-0.163042	0.123021	-0.255125	-0.448825	-0.062545	-0.215968	-0.162248	0.20187	-0.149236	0.132852	-0.523675	0.069703	-0.589165	0.068537	1						
POLITICAL_CONSTRAINT_INDEX	0.050127	0.316842	0.395966	-0.110204	-0.054589	0.96798	-0.195234	0.092793	0.159147	0.037699	-0.002276	-0.17491	-0.178694	0.061587	-0.267392	0.166683	-0.063449	0.257332	-0.000765	-0.112432	1					
POPULATION	-0.017671	-0.183757	-0.063318	0.162416	0.052536	0.010466	0.099482	0.633725	-0.100602	-0.055528	0.50422	-0.081561	-0.089633	0.844262	-0.077971	-0.163755	-0.085149	-0.101926	-0.028419	-0.175243	0.041617	1				
RULE_OF_LAW	0.12304	0.421787	0.889272	0.010002	0.048059	0.429261	-0.127732	0.029884	0.375993	-0.138609	-0.047658	-0.122716	-0.282425	-0.006824	-0.378131	0.393485	-0.145266	0.493888	-0.011407	-0.201023	0.400439	0.005989	1			
TED_RATE	-0.005896	0.085656	-0.005822	-0.035068	0.005998	-0.050639	0.114709	-0.010633	0.016476	-0.112407	-0.089468	-0.110653	-0.084945	-0.072653	-0.049492	-0.009412	0.210211	-0.005459	0.044241	-0.007968	-0.054439	-0.054487	-0.020211	1		
TRADE_OPENNESS	0.045857	0.134899	-0.033584	-0.333059	0.001743	-0.115792	0.180416	-0.315913	-0.041303	0.146643	-0.162378	0.107023	0.293168	-0.17877	0.069215	0.244234	0.079959	0.01477	-0.039044	0.257644	-0.140108	-0.307729	0.049685	0.076006	1	
US_EXCHANGE_LOCAL_CURRENCY	-0.024951	-0.025327	-0.17625	0.017399	-0.029737	-0.08206	0.115758	-0.022749	-0.136023	-0.001636	-0.060162	-0.680293	0.122222	-0.037619	0.088808	-0.176847	0.052607	-0.183513	3.31E-05	0.216789	-0.04053	-0.009739	-0.171663	0.046237	0.002428	1
VIX	0.037132	0.058179	0.062501	0.038309	0.032791	-0.02731	-0.193889	0.003004	-0.054065	-0.14476	-0.011373	-0.070518	-0.004031	0.056814	-0.032794	-0.067778	0.119033	-0.021572	0.077652	0.029951	-0.016759	0.06308	0.099372	0.436831	-0.009713	-0.050647

Note: Correlation analysis using ordinary method. Balanced sample (listwise missing value deletion). Included observations 374.

Figure 74: Panel study - Correlation matrix unbalanced sample

Correlation	ANNUAL_GOL	CAPITAL_ACC	CONTROL_OF	CURRENT_AC	CURRENT_USD	DEMOCRACY	GDP_GROWTH	GDP_NOMINA	GDP_PER_CA	GOLD_PRICE_	GOLD_RESER	GOLD_RESER	GOLD_RESER	GOLD_RESER	HUMAN_DEV	INFLATION	INCOME_GRC	INFLATION_V	OFFICIAL_DE	POLITICAL_C	POPULATION	RULE_OF_LA	TED_RATE	TRADE_OPEN	US_EXCHANG	VIX
ANNUAL_GOLD_MANAGEMENT_PERFORMANCE	1																									
CAPITAL_ACCOUNT_OPENNESS	0.010146	1																								
CONTROL_OF_CORRUPTION	0.02941	0.623298	1																							
CURRENT_ACCOUNT_BALANCE	0.007026	0.09022	0.14511	1																						
CURRENT_USD_GOLD_MANAGEMENT_PROFIT_LOSS	0.034718	-0.039742	-0.041394	0.002446	1																					
DEMOCRACY_INDEX	0.030444	0.497704	0.517021	-0.244869	-0.032187	1																				
GDP_GROWTH__	-0.006325	-0.181827	-0.192121	0.042883	0.010268	-0.301109	1																			
GDP_NOMINAL	-0.016456	0.18793	0.24948	0.015029	-0.33122	0.155757	-0.073351	1																		
GDP_PER_CAPITA__NOMINAL	-0.004488	0.563579	0.78636	0.293473	-0.080572	0.310028	-0.15045	0.295579	1																	
GOLD_PRICE__CURRENT_USD_	-0.044707	0.01855	-0.019622	-0.079428	-0.038793	0.041272	-0.070139	0.086508	0.189532	1																
GOLD_RESERVES__CURRENT_USD_	-0.015012	0.194572	0.211581	0.032931	-0.329628	0.152079	-0.091294	0.831326	0.296246	0.134314	1															
GOLD_RESERVES_PER_CAPITA	-0.009082	0.29221	0.382539	0.233221	-0.04839	0.174159	-0.126685	0.190125	0.519488	0.171994	0.402413	1														
GOLD_RESERVES_TO_GDP	-0.023108	0.010933	-0.048993	0.116705	-0.012144	-0.042086	-0.087624	0.027554	0.072292	0.183139	0.219988	0.566039	1													
GOLD_RESERVES_TO_GDP_CAPITA	-0.01664	-0.11372	-0.063425	0.025008	-0.14549	0.009919	0.054936	0.444942	-0.023534	0.10426	0.433768	0.094976	0.147853	1												
GOLD_RESERVES_TO_TOTAL_RESERVES	-0.022242	0.22449	0.226426	-0.018869	-0.108573	0.179998	-0.16794	0.355435	0.308078	0.104586	0.511739	0.46375	0.49603	0.182052	1											
HUMAN_DEVELOPMENT_INDEX__HDI_	0.031709	0.617274	0.774378	0.227823	-0.053204	0.472626	-0.20727	0.269799	0.703531	0.150533	0.247408	0.372192	0.083221	-0.052049	0.284204	1										
INFLATION	0.01218	-0.296816	-0.298531	-0.1126	0.021664	-0.16541	0.054652	-0.11044	-0.246867	-0.057049	-0.069194	-0.136136	-0.000382	-0.006871	-0.053741	-0.25325	1									
INCOME_GROUP	0.043381	0.602713	0.785235	0.276837	-0.040817	0.431189	-0.225374	0.259555	0.718576	0.145703	0.230256	0.363825	0.047207	-0.055224	0.285375	0.91363	-0.298764	1								
INFLATION_VOLATILITY	0.000729	-0.029129	-0.049705	-0.004953	4.60E-05	-0.024613	0.004868	0.004599	-0.04325	-0.024164	0.004627	-0.010368	0.005625	0.008177	-0.015471	-0.033789	0.014025	-0.030027	1							
OFFICIAL_DEVELOPMENT_AID___GDP_	-0.02163	-0.21807	-0.333204	-0.005198	-0.008089	-0.111064	0.069237	-0.144649	-0.415633	-0.085196	-0.158028	-0.14954	0.065888	-0.102958	0.001369	-0.630521	0.146291	-0.544751	-0.157063	1						
POLITICAL_CONSTRAINT_INDEX	0.028532	0.446574	0.460289	-0.307384	-0.029543	0.965871	-0.296349	0.146332	0.253592	0.048654	0.134237	0.150544	-0.02898	0.040678	0.176923	0.403436	-0.136506	0.341736	-0.022509	-0.059945	1					
POPULATION	-0.013643	-0.161608	-0.083006	0.032956	-0.072804	-0.061755	0.101362	0.384658	-0.066821	0.013537	0.196585	-0.042924	-0.058014	0.834891	-0.015512	-0.084955	-0.02601	-0.10842	0.007544	-0.13746	-0.014119	1				
RULE_OF_LAW	0.03526	0.636071	0.960918	0.128518	-0.051182	0.551288	-0.209083	0.260275	0.760617	-0.000511	0.230942	0.369111	-0.060167	-0.022812	0.249666	0.784064	-0.33222	0.795927	-0.046291	-0.35385	0.500653	-0.054529	1			
TED_RATE	-0.00378	0.034055	0.002913	-0.02057	0.025954	-0.010873	0.019569	-0.000415	0.030856	-0.108265	-0.019438	-0.020889	-0.056685	-0.030029	-0.008292	-0.008234	0.125522	-0.008992	0.018505	-0.001842	-0.01481	-0.001432	-0.006721	1		
TRADE_OPENNESS	0.019149	0.171742	0.289239	0.181055	0.042789	-0.024834	0.010779	-0.208944	0.315161	0.06948	-0.133459	0.094345	0.017027	-0.18599	-0.084129	0.265134	-0.086573	0.25499	0.00638	0.039495	-0.052367	-0.205001	0.298696	0.0197	1	
US_EXCHANGE_LOCAL_CURRENCY	-0.017135	-0.090864	-0.235327	-0.025553	0.007316	-0.103126	0.076063	-0.05474	-0.167602	-0.005785	-0.057098	-0.091682	0.042226	-0.019975	-0.034948	-0.216284	0.040229	-0.242275	0.007232	0.049236	-0.050833	0.019412	-0.225997	-0.006211	-0.050688	1
VIX	0.028624	-0.000846	0.012832	-0.009442	0.038864	-0.016253	-0.183202	-0.016776	-0.031017	-0.088207	-0.010543	-0.008643	0.006815	0.00208	-0.004462	-0.031201	0.088201	-0.019642	-0.006911	0.018861	-0.020363	-0.002988	0.005538	0.419891	-0.03667	-0.005395	1

Note: Correlation analysis - ordinary method. Unbalanced pairwise sample (pairwise missing value deletion). Included observations 1500.

2.3. Summarized results

Dependent variable is "gold reserves to total reserves" (in the first table) and "annual gold management performance" (in the second table). Regressions are estimated using the generalized method of moments (GMM) method using only 1-year and 2-year lags of the dependent variable as instruments (except for pre-crisis and post-crisis subsample estimations, for which all independent variables in the baseline model have been used as instruments to increase significance).

All regressions (note that N/A values have been obtained for regressions 2 and 8 in the first table; and regressions 3, 4, 6 and 8 in the second table) pass the Arellano-Bond test for second order autocorrelation (since the null hypothesis of "no serial autocorrelation" is customarily rejected at a 5% or lower significance level).

All regressions except for regression 8 in table 1 pass the Hansen test of over-identifying restrictions. A constant term is included in all regressions, but not reported. Error terms are reported in right column of every regression.

In addition to the baseline models presented, results have been tested for robustness using 11 alternative modelizations in the case of the ratio of gold reserves to total reserves, and 8 alternative modelizations in the case of annual gold reserves management performance. The methodology used, its rationale and the detailed results of the alternative modelizations are presented in the Appendix.

Figure 75: Determinants of gold reserves to total reserves - summarized results

DETERMINANTS OF GOLD RESERVES TO TOTAL RESERVES	Base model	1		Control of Corruption	2		Democracy index & GDP per capita nominal	3		TED rate	4		Countries not receiving official developme nt aid	5		Countries receiving official developme nt aid	6		Pre-crisis years (2000-2007) with additional instruments	7		Cross years (2000-2014) with additional instruments	8		Proxy dependent variable: Gold reserves per capita	9		Proxy dependent variable: Gold reserves to GDP	10		Proxy dependent variable: Gold reserves to GDP per capita	11		Balance sample	12	
	Coefficient	Syn.	Std. Error	Coefficient	Syn.	Std. Error	Coefficient	Syn.	Std. Error	Coefficient	Syn.	Std. Error	Coefficient	Syn.	Std. Error	Coefficient	Syn.	Std. Error	Coefficient	Syn.	Std. Error	Coefficient	Syn.	Std. Error	Coefficient	Syn.	Std. Error	Coefficient	Syn.	Std. Error	Coefficient	Syn.	Std. Error
CAPITAL_ACCOUNT_OPENNESS	-0.193923	***	0.005875	-0.106215	***	0.007815	-0.109489	***	0.004772	-0.138948	***	0.004241	-0.293201	***	0.010973	-0.337519	***	0.011973	0.003011	***	0.011393	-0.035916	**	0.018835	-3938.417	***	15.98322	-0.035549	***	0.000236	1.194179	***	182.6538	-0.125947	***	0.000652
CONTROL_OF_CORRUPTION				0.659315	***	0.083746	-0.110498	***	0.004772	-0.138948	***	0.004241	-0.293201	***	0.010973	-0.337519	***	0.011973	0.003011	***	0.011393	-0.035916	**	0.018835	-3938.417	***	15.98322	-0.035549	***	0.000236	1.194179	***	182.6538	-0.125947	***	0.000652
CURRENT_ACCOUNT_BALANCE	-0.000638	***	9.54E-05	-6.27E-05		7.32E-05	0.001761	***	8.39E-05	0.000401	***	0.00012	-0.242491	***	0.001393	-0.000292		0.000206	-0.000672		0.000435	0.000151		0.000334	5.230071	***	0.003925	0.000211	***	7.30E-07	1.513131	***	325.7169	-0.003811	***	0.000116
DEMOCRACY_INDEX				-0.039147	***	0.00727																													
FOREIGN_DIRECT_INVESTMENT___GDP_	-0.000181	***	1.94E-05	-0.000102	***	1.69E-05	4.94E-05	***	8.31E-06	-0.000135	***	1.86E-05	0.000324		0.00019	0.000491		0.000305	-3.27E-05		0.000357	-0.000185	***	8.85E-05	0.782425	***	0.025947	-0.000414	***	4.09E-07	-7.723E-02	***	2205.126	-3.72E-05	***	9.13E-06
GDP_GROWTH___	0.000821	***	0.000147	0.001328	***	0.000213	0.002213	***	0.000121	0.001708	***	0.00012	-0.002252	**	0.001059	0.000238		0.000386	-0.000446		0.000357	-0.000185	***	8.85E-05	0.782425	***	0.025947	-0.000414	***	1.04E-06	-1.345E-01	***	398.2496	-0.001207	***	0.000103
GDP_PER_CAPITA__NOMINAL_							6.65E-06	***	1.47E-07																										
GLOBAL_LIQUIDITY_MEASURE_CREDIT___GDP_	0.002151	***	6.04E-05	0.001446	***	6.69E-05	0.000181	***	4.91E-05				0.003233	**	0.001271	-0.002938	***	0.000094	0.000704		0.000397	-9.93E-05		0.000938	7.68E+07	***	0.073944	-0.000223	***	8.35E-07	-3.002E-01	***	354.1455	0.001913	***	5.74E-05
GOLD_PRICE_CURRENT_USD_	7.33E-05	***	1.63E-06	7.16E-05	***	5.48E-05	7.33E-05	***	1.39E-06	7.33E-05	***	1.97E-06	2.39E-05		5.02E-05	5.03E-05	***	6.33E-06	-3.51E-05		2.39E-05	4.40E-05	***	7.47E-06	0.1414	***	0.002057	7.70E-06	***	2.23E-08	1.945E+00	***	9.269E+07	2.15E-06		5.15E-06
GOLD_RESERVES_CURRENT_USD_	4.77E-13	***	7.02E-14	1.47E-13	**	4.84E-14	1.73E-13	***	4.01E-14	9.17E-13	***	6.00E-14	3.95E-13		3.33E-13	-4.11E-12	**	1.93E-12	1.13E-12	***	3.87E-13	1.14E-12	**	5.55E-13	6.27E-09	***	1.59E-10	3.30E-13	***	1.63E-15	1.49E-06	***	1.135E+07	3.41E-13	***	4.22E-14
GOLD_RESERVES_PER_CAPITA(-1)																																			
GOLD_RESERVES_PER_CAPITA(-2)																																			
GOLD_RESERVES_TO_GDP(-1)																																			
GOLD_RESERVES_TO_GDP(-2)																																			
GOLD_RESERVES_TO_TOTAL_RESERVES(-1)	0.676723	***	0.005937	0.290483	***	0.00311	0.194721	***	0.00355	0.234436	***	0.004497	0.498079	***	0.016157	0.357201	***	0.012755	0.283494	***	0.123862	-0.23055	**	0.110267											
GOLD_RESERVES_TO_TOTAL_RESERVES(-2)	0.096024	***	0.00148	0.063279	***	0.001882	0.056846	***	0.002094	0.038867	***	0.001594	-0.057933	*	0.027048	-0.124936	***	0.006328	0.036828	***	0.01877	-0.05427	***	0.020902			-0.276393	***	0.000425				-0.020838	***	0.000891
HUMAN_DEVELOPMENT_INDEX__HDI_	-2.991698	***	0.075169	-2.774566	***	0.053233	-3.648333	***	0.055949	-2.939935	***	0.067255	-2.243751		0.911705	-2.507613	***	0.100726	0.246558	**	0.145125	-0.11763		0.233138	12007.33	***	48.05586	-0.106824	***	0.000686	-2.559229	***	2629538	-2.001829	***	0.057417
INCOME_GROUP	0.063395	***	0.002115	0.070126	***	0.002055				0.043225	***	0.002255	0.074516	*	0.04241	0.046674	***	0.002859	-0.01001	***	0.005944	0.002515		0.003942	-108.3233	***	1.272985	-0.000616	***	1.38E-05	369287.7	***	9562.823	0.063133	***	0.00015
INFLATION	0.000688	***	8.25E-05	-0.000228	***	0.000105	0.001049	***	0.000139	0.000139	***	4.38E-05	0.001094	***	0.002108	0.001082	***	6.63E-05	2.19E-05		0.000146	9.54E-05		0.000286	0.938991	***	0.046124	4.22E-05	***	1.56E-06	1048.323	**	429.8918	0.001114	***	8.79E-05
INFLATION_VOLATILITY	3.93E-07	*	2.24E-07	4.19E-07	***	1.61E-07	4.38E-07	***	6.39E-08	5.09E-07	***	1.79E-07	-1.76E-07		2.41E-07	-0.000148	***	4.53E-05	-0.000674	***	0.000238	8.33E-09		6.97E-09	0.000233		0.000302	-9.77E-09		1.11E-08	2.01E-3904		6.39E+24	-2.18E-08	***	8.02E-09
POPULATION	7.29E-08	***	7.44E-10	8.37E-09	***	7.53E-10	1.62E-08	***	9.82E-10	8.49E-09	***	8.42E-10	7.04E-09		1.26E-08	2.15E-09	***	5.51E-10	-1.49E-10		1.69E-10	1.80E-10		3.21E-10	-0.000131	***	4.25E-06	-4.25E-10	***	2.91E-11	0.0141474	***	0.0003033	9.14E-10	**	4.28E-10
RULE_OF_LAW	0.178814	***	0.00524							0.137089	***	0.003868	0.008162	*	0.053961	0.057435	***	0.009018	-0.00678		0.009366	-0.01184		0.014726	71.16189	***	1.865823	0.011645	***	5.39E-05	650395.1	***	2607.25	0.009193	***	0.00487
TED RATE										0.434173	***	0.010894																							
TRADE_OPENNESS	-0.000449	***	3.96E-05	-0.000451	***	3.27E-05	-0.001797	***	4.49E-05	-0.001799	***	4.67E-05	-0.000927		0.000849	-0.002019	***	8.79E-05	0.000151		0.000121	-0.000394	*	0.000222	-182.3614	***	0.045869	1.06E-05	***	2.66E-07	-3656.294	***	235.0397	-0.000321	***	6.20E-05
US_EXCHANGE_LOCAL_CURRENCY	5.29E-05	***	5.80E-06	-8.02E-05	***	6.62E-06	2.94E-05	***	3.74E-06	-4.49E-05	***	5.47E-06	-0.00026	*	0.000359	-5.75E-05	***	4.47E-06	-7.73E-07		6.40E-06	7.11E-06		5.86E-06	0.297828	***	0.002829	2.35E-05	***	2.37E-07	379.8178	***	17.39518	1.01E-05	***	3.90E-06
VIX	-0.000616	***	2.36E-05	-6.83E-05	*	3.73E-05	0.000231	***	5.28E-05	-0.000141	***	5.11E-05	-0.000219	***	0.000678	-0.00019	***	6.53E-05	0.000439	*	0.000241	-0.000115		0.000494	1.78733	***	0.047398	1.91E-06	***	3.31E-07	24754.9	***	227.8398	-0.000614	***	5.96E-05
Number of observations(-1)	1024			1024			977			1024			410			578			401			351			1023			1024			1024			886	
Number of instruments	93			93			90			93			40			56			84			90			93			93			93			74	
Hansen statistic	71.70			71.76			76.80			73.34			20.38			45.42			19.74			21.219			64.73			76.61			69.83			59.21	
Hansen p value	0.49			0.49			0.33			0.43			0.50			0.22			0.35			0.047			0.49			0.27			0.45			0.50	
AR(2) statistic	0.98			NA			0.88			0.86			0.98			1			0.71			NA			0.21			0.88			0.74			0.71	

*** indicates significance at 1% or lower, ** indicates significance at 5% or lower, ** indicates significance at 10% or lower.

Figure 76: Determinants of annual gold reserves management performance - summarized results

DETERMINANTS OF ANNUAL GOLD RESERVES MANAGEMENT PERFORMANCE	Base model		1		2		3		4		5		6		7		8		9	
	Coefficient	Sgn.	Std. Error	Control of Corruption Coefficient	Sgn.	Std. Error	Democracy index & GDP per capita nominal Coefficient	Sgn.	Std. Error	TED rate Coefficient	Sgn.	Std. Error	Countries not receiving official development aid Coefficient	Sgn.	Std. Error	Countries receiving official development aid Coefficient	Sgn.	Std. Error	Pre-crisis years (2000 - 2007) with additional instruments Coefficient	Sgn.	Std. Error	Crisis years (2008 - 2014) with additional instruments Coefficient	Sgn.	Std. Error	Proxy dependent variable: Gold management profit / loss Coefficient	Sgn.	Std. Error
ANNUAL_GOLD_MANAGEMENT_PERFORMANCE(-1)	-0.198393616360	***	0.001074657522	-0.110235111	***	0.000078	-0.152864611	***	0.002254	-0.101207	***	0.002844	-0.183733		0.525489	-0.11991	**	0.056393	-0.0901242	***	0.016646	-0.051636	***	0.011464			
ANNUAL_GOLD_MANAGEMENT_PERFORMANCE(-2)	-0.002953981171	***	0.000133596177	-0.000387647	***	5.24E-06	-0.000726611	***	8.63E-06	-0.000649	***	4.24E-06	-0.30533		0.473812	-0.03887	*	0.020889	0.0003596	***	8.03E-05	-0.032025	**	0.012163			
CAPITAL_ACCOUNT_OPENNESS	0.038235120724	***	0.002558102096	0.033752491	***	0.000086946	0.051883141	***	0.001476	0.007375	***	0.000961	-0.030654		0.031939	0.15538	*	0.080755	-0.011992	**	0.005068	0.026878	***	0.009671	-6.32366E5	***	887165.6
CONTROL_OF_CORRUPTION			0.020506631		***	0.000179231																					
CURRENT_ACCOUNT_BALANCE	0.000824623806	***	0.000013926662	0.000083155	***	1.26E-05	0.001637616	***	4.20E-05	0.000522	***	1.57E-05	3.78E-05		0.000438	0.000037		0.001146	-0.000973	***	0.00024	0.000133		0.00023	413341.3	***	176466.3
CURRENT_USD_GOLD_MANAGEMENT_PROFIT_LOSS(-1)																									-0.24329	***	0.003311
CURRENT_USD_GOLD_MANAGEMENT_PROFIT_LOSS(-2)																									-0.025336	***	0.000177
DEMOCRACY_INDEX							-0.005443838	***	0.002863																		
FOREIGN_DIRECT_INVESTMENT____GDP_	0.000164991023	***	0.000027846487	-0.001806018	***	1.48E-05	-0.000193	***	6.62E-05				-9.00E-05		0.000549	-0.000287		0.000615	-0.000511		0.000367	0.004341	***	0.001353	1732948	***	24926.06
GDP_GROWTH____	0.000164991023	***	0.000027846487	-0.001806018	***	1.48E-05	-0.000193	***	6.62E-05				-9.00E-05		0.000549	-0.000287		0.000615	-0.000511		0.000367	0.004341	***	0.001353	1732948	***	24926.06
GDP_PER_CAPITA__NOMINAL							-3.02E-06	***	6.50E-08																		
GLOBAL_LIQUIDITY_MEASURE_CREDIT___GDP_	-0.001651859423	***	0.000278461487	-0.001806018	***	1.48E-05	-0.000193	***	6.62E-05				-9.00E-05		0.000549	-0.000287		0.000615	-0.000511		0.000367	0.004341	***	0.001353	1732948	***	24926.06
GOLD_PRICE_CURRENT_USD_	-0.000008476573	***	0.000009147753	-9.21E-06	***	3.72E-07	3.81E-06	***	1.12E-06	-5.15E-07		5.94E-07	-1.45E-06	*	3.20E-05	2.87E-12		6.73E-05	-6.23E-06		1.24E-05	3.44E-05	***	8.30E-06	43714.17	***	790.4585
GOLD_RESERVES__CURRENT_USD_	-0.000000000003	***	0.000000000001	-1.33E-13	***	2.77E-14	-1.13E-12	***	2.45E-13	-9.57E-14	***	2.06E-14	1.46E-12		9.68E-13	2.87E-12		2.51E-12	1.05E-13	*	5.31E-14	-3.41E-13	***	1.11E-13	-0.000236	***	0.000164
HUMAN_DEVELOPMENT_INDEX_HDI_	0.040648681086	***	0.023071715946	0.030097057	***	0.009739	0.614399611	***	0.029927	0.009695	***	0.012947	0.230593		0.446839			-0.133023	*	0.078485	1.07803	***	0.373869	-3.33E-08	***	7203014
INCOME_GROUP	0.007375838036	***	0.000281496654	0.008429304	***	0.000116321				0.002541	***	0.000625	-0.008685	*	0.005178	-0.05392	***	0.003985	-0.00073		0.003862	0.008783	*	0.004095	100004.01	***	33830.13
INFLATION	-0.000162927294	***	0.000160053312	-8.23E-05	***	6.79E-06	-0.000578	***	2.93E-05	4.47E-05	***	1.56E-05	-0.001807		0.00081	0.000506		0.000527	0.000417		0.000265	0.000414	***	0.000139	82649.78	***	2675.447
INFLATION_VOLATILITY	-0.002769501580	***	0.000474616932	-0.000172293	***	4.93E-05	-0.000123		9.37E-05	-0.000233	***	5.67E-05	0.002219		0.002868	0.000263		0.00195	0.000971	*	0.000355	-4.69E-05		0.000346	-120562		112098.6
POPULATION	-0.000000000071	***	0.000000000777	-6.77E-10	***	4.83E-11	-1.27E-09	***	9.24E-11	-4.55E-10	**	2.19E-10	-4.13E-09		4.12E-09	2.83E-09		3.49E-09	9.18E-10	*	5.46E-10	8.13E-10		9.96E-10	-0.287928		0.322224
RULE_OF_LAW	0.025357239029	***	0.000481283316							0.033003	***	0.000808	-0.013638		0.013957	0.034364		0.06399	0.016372	**	0.006758	-0.013076		0.012659	5019.9388	***	1595.866
TED RATE										-5.29E-05		0.000556															
TRADE_OPENNESS	0.000569919078	***	0.000015020442	0.000562882	***	8.80E-06	0.000521616	***	2.12E-05	0.0003	***	1.47E-05	0.000465		0.000568	-0.000173		0.000586	0.000464	***	7.46E-05	0.000121		9.46E-05	-823806.5	***	17244.89
US_EXCHANGE_LOCAL_CURRENCY	0.000419383874	***	0.000013921188	3.53E-05	***	8.03E-07	1.11E-05	***	2.17E-06	5.70E-05	***	8.59E-07	0.00024		0.000445	0.000247		0.000448	-9.02E-06	**	4.10E-06	0.000166	***	2.91E-05	64412.37	***	3081.525
VIX	0.001216246427	***	0.000136726063	0.001303	***	5.73E-06	0.001397	***	1.93E-05	0.000237	***	3.14E-05	-9.00E-05		0.000311	0.001936	**	0.000884	-0.000327	***	0.000128	-0.001448	*	0.000083	-1246691	***	18597.74
Number of observations (N)	353			353			353			353			144			189			154			94			351		
Number of instruments	56			56			54			56			25			31			45			33			56		
Hansen statistic	31.93			34.12			29.36557			34.51			6.06			13.88			20.57			14.60			38.10		
Hansen p-value	0.57			0.41			0.498616			0.40			0.53			0.46			0.30			0.26			0.25		
AR(2) statistic	0.9999			0.9976			NA			NA			0.9969			NA			0.1064			NA			0.99		

*** indicates significance at 1% or lower, ** indicates significance at 5% or lower, ** indicates significance at 10% or lower.

2.4. Results analysis

2.4.1. Ratio of gold reserves to total reserves

2.4.1.1. Baseline model

In the first table above, we observe that all explanatory variables included in the model yield significant results, which indicates that they do have an effect on the ratio of sovereign gold reserves to total reserves.

The values of the dependent variable in this sample range from 3.45E-06 to 0.90, with a mean value of 0.12 and a median value of 0.047. The standard deviation is 0.18.

The signs of the coefficients obtained in this model are consistent with the findings in previous literature (Ghosh, 2016a, 2016b; Gopalakrishnan & Mohapatra, 2018a, 2018b; Oktay et al., 2016) in all variable except for "capital account openness", "gold price current USD", "VIX" and "population"[8]. While the coefficients obtained in our model for these three variables are statistically significance, the statistical association found is of weak intensity. For comparative purposes, the table below is presented.

Figure 77: Previous literature gold reserves determinants comparative

DETERMINANTS OF GOLD RESERVES TO TOTAL RESERVES	Liste & Neira statistical association sign	Previous literature statistical association sign	Authors	Year	Variable
CAPITAL_ACCOUNT_OPENNESS	-	+	Gopalakrishnan & Mohapatra	2018_A & B	CAPITAL_ACCOUNT_OPENNESS
CURRENT_ACCOUNT_BALANCE	-	-	Oktay et al.	2016	CURRENT_ACCOUNT_BALANCE
FOREIGN_DIRECT_INVESTMENT____GDP_	-	-	Oktay et al.	2016	NET_FDI_LIABILITIES
GDP_GROWTH____	+	+	Ghosh; Gopalakrishnan & Mohapatra	2016_A;2018_A & B	GDP_GROWTH_____

[8] Oktay et al. (2016) find a negative sign statistical association between population and gold reserves. However, when total reserves or total reserves without gold is considered, the authors find a positive sign statistical association with population.

GLOBAL_LIQUIDITY_MEASURE__CREDIT_GDP_	+	+	Gopalakrishnan & Mohapatra	2018_B	GLM_CREDIT_GDP in current USD and constant 2010 USD
GOLD_PRICE__CURRENT_USD_	+	-	Gopalakrishnan & Mohapatra	2018_B	GOLD_PRICE in constant 2010 USD
INFLATION	+	+	Ghosh	2016_B	INFLATION
INFLATION_VOLATILITY	+	+	Ghosh	2016_A & B	INFLATION_VOLATILITY
POPULATION	+	-	Oktay et al.	2016	POPULATION
TED RATE	+	+	Ghosh	2016_A	INTEREST_RATE_PREMIUM
TRADE_OPENNESS	-	-	Gopalakrishnan & Mohapatra	2018_A & B	TRADE_OPENNESS
US_EXCHANGE_LOCAL_CURRENCY	-	-	Ghosh	2016_A & B	NATIONAL_CURRENCY_PER_USD
VIX	-	+	Gopalakrishnan & Mohapatra	2018_A & B	VIX_INDEX

Turning now our attention to the variables included in our model that had not been previously covered in the literature, we find development variables like "income group" and "rule of law" bear a positive statistical association with "gold reserves to total reserves". According to our model, a step-up in the income ladder goes hand in hand with a 6% increase in the ratio of gold reserves to total reserves. A unit increase in "rule of law" scores is associated with a 17% increase in the ratio of gold reserves to total reserves. From our model we can also interpret that countries with large gold reserves also seem to have higher ratios of gold reserves to total reserves when.

2.4.1.2. Robustness check

In the first robustness check (model 2), we substitute in the baseline model the variable "rule of law" by a proxy, "control of corruption". The coefficients obtained for all explanatory variables remain significant and are consistent with the results of the baseline model. "Control of corruption" displays a positive statistical association with "gold reserves to total reserves" of the same sign as "rule of law", which is logical due to the high correlation displayed by these two variables in our sample.

When the variable "income group" is replaced by "GDP per capita nominal", and "rule of law" is replaced by "democracy index", all coefficients but the three –"current account balance", "foreign direct investment as a percentage of GDP" and "VIX"– change signs in comparison

with the baseline model. All explanatory variables display high degrees of significance. Regarding the new variables introduced in the alternative model, "GDP per capita nominal" bears a same sign statistical relation with the dependent variable as the proxy variable it substitutes ("income group"). The same does not happen with "democracy index", which displays an opposite sign relation with the baseline model variable "rule of law". The negative sign relation coincides with that of the "gold reserves management performance model".

The use of "TED rate" instead of "global liquidity measure – credit to GDP" does not alter significance or coefficient signs (except for "current account balance", in the latter). The coefficient obtained for "TED rate" bears a positive sign, indicating that higher perceived credit risk tends to encourage the strengthening of gold positions by central banks. Although this result may seem incompatible with Gopalakrishnan & Mohapatra (2018b) findings on the relation between short term interest rates and the level of gold reserves to total reserves (negative sign coefficient), this is not the case, as the indicator used by Gopalakrishnan & Mohapatra is influenced by a number of factors that are not entirely identical as those affecting TED rate. While the TED rate is above all a credit risk metric, short term interest rates may be affected by inflation, economic cycle, etc.

When the original sample is divided in two subsamples –countries not receiving official development aid (model 5) and countries receiving official development aid (model 6)– there is a considerable reduction in the number of significant coefficients. This is mainly due to the lower number of observations in the subsamples (410 in model 5 and 578 in model 6). For model 5, significant results are consistent with those of the baseline model except in the case of "GDP growth"; in model 6, significant results are consistent with those of the baseline model except in the cases of "inflation volatility", "gold reserves current USD" and "global liquidity measure".

When comparing the two subsamples (table below), it can be observed that most statistical associations present the same sign in both groups. Only in the variables "GDP growth", "global liquidity measure" and "gold reserves (current USD)" the statistical association between those determinants and the level of gold reserves in relation to total reserves changes signs from one subsample to the other. The different manner in which GDP growth affects the ratio of gold reserves to total reserves in recipients / non-recipients of official development aid can be attributed to a lower financial markets development (which would favour the investment of additional liquidity in traditional financial assets such as gold) in the former and to the availability of more investment options in the latter (which would allow for investment of additional liquidity in reserve assets different from gold). Although also related to liquidity, the global liquidity metric used in this study transcends national borders and measure the amount of credit in the international economy. High-liquidity scenarios go usually hand in hand with low interest-rate investment environments, which in the case of developed countries would favour investment in gold. The situation is different in countries receiving official development aid; in those nations, funds made available due to more lenient credit conditions are likely to be used in the fulfilment of pressing development needs –therefore, they cannot be dedicated to increase gold holdings–. This same rationale can explain the different influence of the variable "gold reserves (current USD)" in developing and developed countries. In the former, the existence of already substantial gold holdings may incline decision makers to use other

available funds for productive investments. It is important to note that from the three differing sign statistical associations identified in the table below, only in the case of the variable "global liquidity measure" were both coefficients statistically significant. Therefore, the comparative presented here and the interpretation of the existing contrasts must be taken with caution.

Figure 78: Comparative of determinants of gold reserves to total reserves in countries receiving/not receiving development aid

DETERMINANTS OF GOLD RESERVES TO TOTAL RESERVES	Countries not receiving official development aid: sing of the statistical association	Countries receiving official development aid: sign of the statistical association
CAPITAL_ACCOUNT_OPENNESS	-	-
CURRENT_ACCOUNT_BALANCE	-	-
FOREIGN_DIRECT_INVESTMENT____GDP_	+	
GDP_GROWTH____	-	+
GLOBAL_LIQUIDITY_MEASURE__CREDIT___GDP_	+	-
GOLD_RESERVES_CURRENT_USD	+	-
GOLD_PRICE__CURRENT_USD_	+	+
GOLD_RESERVES_TO_TOTAL_RESERVES(-1)	+	+
GOLD_RESERVES_TO_TOTAL_RESERVES(-2)	-	-
HUMAN_DEVELOPMENT_INDEX	-	-
INCOME GROUP	+	+
INFLATION	+	+
INFLATION_VOLATILITY	-	-
POPULATION	+	+
RULE OF LAW	+	+
TRADE_OPENNESS	-	-
US_EXCHANGE_LOCAL_CURRENCY	-	-
VIX	-	-

When the robustness of the baseline model is tested for pre-crisis (2000-2007) and crisis (2008-2014) years, the lower number of observations (401 for the pre-crisis period –model 7– and 351

for the post-crisis years –model 8–) markedly reduces significance. It appears that the signs of the statistical associations often differ between pre-crisis and post-crisis years. This aligns with the findings of Pihlman & Van der Hoorn (2010) and Karunagaran (2013) on the different management strategies adopted by gold reserve managers before and after the global financial crisis. However, this observation must be taken with extreme caution, as all except one explanatory variable ("gold reserves current USD") display non-significant coefficients in at least the pre-crisis or the crisis period. In the two subperiods, a number of coefficients display opposite sign statistical associations in respect to the baseline model. The differences between the signs of the coefficients in these robustness checks and those in the baseline model may be due in part to the inclusion of an expanded list of instruments in the equations for model 7 and 8, which was statistically necessary due to the low number of observations. In the following table, the reader can observe that a large number of independent variables influence the dependent variable differently in the pre- and post- crisis periods. These finding align with those of previous studies on the matter (see Literature Review). Again, caution must be exercised with the differing results, as only those having a dotted pattern have statistically significant coefficients for the pre-crisis and crisis periods.

Figure 79: Comparative of determinants of gold reserves to total reserves for pre-crisis & crisis periods

DETERMINANTS OF GOLD RESERVES TO TOTAL RESERVES	2000 - 2007	2008 - 2014
CAPITAL_ACCOUNT_OPENNESS	+	-
CURRENT_ACCOUNT_BALANCE	-	+
FOREIGN_DIRECT_INVESTMENT____GDP_	-	+
GDP_GROWTH____	-	-
GLOBAL_LIQUIDITY_MEASURE__CREDIT___GDP_	+	-
GOLD_PRICE__CURRENT_USD_	-	+
GOLD_RESERVES_CURRENT_USD	+	+
GOLD_RESERVES_TO_TOTAL_RESERVES(-1)	+	-
GOLD_RESERVES_TO_TOTAL_RESERVES(-2)	+	-
HUMAN_DEVELOPMENT_INDEX	+	-
INCOME GROUP	-	+
INFLATION	+	+
INFLATION_VOLATILITY	-	+
POPULATION	-	+
RULE OF LAW	-	-
TRADE_OPENNESS	+	-
US_EXCHANGE_LOCAL_CURRENCY	-	+
VIX	+	-

In models 9, 10 and 11 we substitute the dependent variable "gold reserves to total reserves" by its proxies "gold reserves per capita", "gold reserves to GDP" and "gold reserves to GDP per capita". The first of these alternative dependent variables is used to understand the relation between the explanatory variables and the amount of gold (in USD) that every citizen of a country would be "entitled to" should the sovereign gold holdings of the country considered were to be distributed among the population. The second alternative dependent variable is a proxy of "gold reserves to total reserves" in the sense that, as much as a country holding larger foreign reserves should possess larger gold holdings, a nation with a bigger GDP is likely to also store more gold than a low GDP peer. "Gold reserves to GDP per capita" introduces one additional variable, per capita income, and allows to compare how prone different countries with similar income levels are to hold gold. The high number of observations in models 9, 10 and 11 allows for the significance of results to be maintained overall. It is remarkable that several explanatory variables affecting "gold reserves to total reserves" do not affect the proxy variables selected for models 9, 10 and 11 in the same way. We observe 7, 9 and 6 opposite sign statistical associations (compared to our baseline model) in model 9, 10 and 11 respectively. "Rule of law" continues to display a strong statistical association with the three alternative dependent variables.

In model 12, we test the robustness of the model using a balanced sample (no gaps in the data, equal number of years –observations– for every country). All coefficients are statistically significant, and the statistical associations found display an opposite sign in only three cases ("GDP growth", "inflation volatility" and "US exchange local currency".

2.4.2. Annual gold reserves management performance

2.4.2.1. Baseline model

In the second table above, we observe that all independent variables included in the model yield significant results, which indicates that they do impact annual gold reserves management performance.

The small values of the coefficients can be explained by the small values of the dependent variable, which –as indicated in the descriptive statistics for the sample– has a mean value of 0.01 and a standard deviation of 0.4, but they do not necessarily indicate that the statistical association between independent variables and the dependent variables is weak. When annual gold reserve management performance is translated from a percentage basis to USD terms, the magnitude of the coefficients increases dramatically (see robustness test, model 9). The difference in units between the dependent variable and each explanatory variable makes a case by case analysis of the intensity of the statistical association necessary.

Results of this baseline model appear to confirm hypothesis 1 of this thesis, formulated in the following terms "development acts as a determinant of sovereign gold reserves financial

performance". The three development components included in the baseline model equation – human development index (HDI), income group and rule of law– all show a positive and significant statistical association with the dependent variable "annual gold reserves management performance".

According to the model, keeping all other variables unchanged, a unit increase in the variable "human development index" (which shows a mean value of 0.72 in the sample under study) increases annual gold reserves management performance by 0.04. Since the values of the human development index in our sample rage from 0.29 to 0.93 (on a 0 to 1 theoretical scale for the index), a HDI change of 0.1 would be more plausible than a 1 change; in this case, a 0.1 increase in HDI would be associated to a 0.004 increase in annual gold management performance. This 0.004 increase is considerable if we consider that, as indicated above, the mean sample value for annual gold reserves management performance is 0.01.

The variable "income group" is a discrete variable which can adopt four values: 1, 2, 3, 4. Higher values of the variable correspond to higher country GDP per capita. Results of the baseline model forecast that every step-up in the income ladder will be associated to a 0.007 increase in annual gold reserves management performance (which is equivalent to 70% of the mean value of this dependent variable).

A unit increase in the variable "rule of law", which in the sample ranges from -1.91 to 2.10 (minimum and maximum theoretical values are -2.5 and 2.5), is associated with a 0.025 increase in annual gold management performance (2.5 times the mean value of the dependent variable in the sample).

Turning now to hypothesis 2, which relates to a number of other explanatory variables included in the baseline model equation, determinants of gold reserves levels seem to also affect gold management performance, although not always in the same direction.

- COUNTRY FACTOR:

    - Capital account openness: in line with the results obtained by Gopalakrishnan & Mohapatra (2018a, 2018b) for the influence of the level of capital account openness on the ratio of gold reserves to total reserves, our baseline model detects a positive statistical association between capital account openness and annual gold management performance. However, the explanation for the association provided by Gopalakrishnan and Mohapatra, based on the higher vulnerability to volatile capital flows of economies with high levels of capital account openness and the consequent accumulation of gold in the reserves portfolio to face those potential eventualities, does not seem applicable to our findings. In this case, our hypothesis would be that the superior performance obtained by reserve managers in countries of higher capital account openness is related to the fact that those countries tend to be more developed economies (see high correlation coefficients between capital account openness and HDI, GDP per capita, income group, rule of law in the correlation matrix) which, as indicated in the formulation of hypothesis 1, have more resources available to

dedicate to sovereign gold reserves management, have better access to financial markets and are more resilient to financial and trade shocks.

- Current account balance: shows a positive statistical association with gold management performance, although its intensity is weak. These results are not in line with Oktay et al. (2016) findings on gold reserves, but they do coincide with the findings of these authors in relation to the statistical association between current account balance and total foreign reserves, and total foreign reserves without gold. A hypothesis for our findings would be that a healthy, non-deficitarian, current account balance would remove pressures to sell gold and allow for better timing of sovereign gold transactions, therefore generating improved overall returns.
- Foreign direct investment: shows a positive statistical association with gold management performance, although its intensity is weak. Results align with Edison (2003) findings on the relation between foreigners equity position and international demand for foreign reserves, but bear an opposite sign to Oktay el al. (2016) between net FDI liabilities and gold reserves. Our explanation for the results obtained in the model is that countries with higher levels of foreign direct investment tend to have higher levels of financial development (Svirydzenka, 2016), which in turn allows for better reserve management (Gopalakrishnan & Mohapatra, 2018a).
- GDP growth: also shows a weak positive statistical association with gold management performance, in line with previous literature (Ghosh, 2016a; Gopalakrishnan & Mohapatra, 2018a). While investment in gold is typically countercyclical for institutional investors, economic growth normally generates inflation, for which gold is proven hedge and lead central banks to increase gold purchases during buoyant economic periods. Our explanatory hypothesis for this statistical association lies in the fact that the purchasing of new gold can be timed at the discretion of reserve managers more easily than the sale of existing gold to cover the financial needs of a country.
- Inflation: displays a weak and negative statistical association with gold management performance. While these results do not align with Ghosh (2016b) findings for the ration of gold reserves to total reserves, our hypothesis is that the negative sign obtained in our model may be due to the fact that the urge countries have to increase their sovereign gold reserves levels in inflationary times (due to the inflation hedge properties of gold) negatively influence purchase timing optimality.
- Inflation volatility: shows a higher influence on gold management performance than inflation, although its intensity remains low, and of negative sign. As Ghosh (2016b) points out, higher inflation volatility denotes higher macroeconomic risk, which increases the likeliness of central bankers to hold gold, in a flight to quality strategy. This perception of risk may adversely affect the timing of gold purchase transactions, and negatively influence gold management performance.
- Population: displays a negative statistical association with gold management performance, although its intensity is low. While results align with the findings of Oktay et al. (2016) for the influence of population on the gold holdings of G7

countries, they seem counterintuitive. Contrary to the findings of Oktay et al., we find in our sample that the variables "gold reserves current USD" and "population" have a high correlation coefficient. Furthermore, a country with a larger population should have larger gold reserves, more resources dedicated to its management and, therefore, obtain better returns. The key to understand the negative sign effect of population on gold management performance may lay in the fact that, in our sample, population displays a negative correlation with the ratio of gold reserves to total reserves.

  - Trade openness: evidences a weak positive statistical relation with gold management performance, which does not align with Gopalakrishnan & Mohapatra (2018a, 2018b) findings for the ratio of gold reserves to total reserves. Our explanatory hypothesis is that the high correlation coefficients between "trade openness" and development variables such as "human development index" or "income group" indicate that "trade openness" can be considered to a certain extent a proxy variable for development, which as the model results indicate, bears a positive effect on gold management performance.
  - US exchange local currency: this variable represents the number of units of local currency per USD at a moment in time. An increase in the value of the variable indicates a devaluation of the local currency, while a decrease denotes an appreciation of the local currency. Ghosh (2016a, 2016b) finds that when local currencies appreciate vs. USD, central bank tend to increment their ratio of gold to total reserves. When interpreting why periods of favourable exchange rate of the domestic currency against the dollar may lead to suboptimal gold reserves management performance, it is plausible to think that reserve managers, led by the subjective sensation that gold prices are low due to the strength of the domestic currency, may purchase gold at suboptimal moments.

- GOLD RESERVES FACTOR: the value of sovereign gold reserves (in current USD) bears a very weak statistical association of negative sign with gold management performance. The explanation for the sign of the relation would lay in the influence of gold prices in the valuation of gold reserves. As discussed below, the negative impact of gold price increases on gold management performance also affects the valuation of gold reserves, which augments.

- GOLD PRICE FACTOR: the statistical association is weak and of negative sign. Results align with Gopalakrishnan & Mohapatra (2018b) findings for the ratio of gold reserves to total reserves. Our explanatory hypothesis for the model results pivots around the fact that when reserve managers purchase gold motivated by flight to quality strategies, they may not be able to optimally time their gold transactions due to the macroeconomic instability and the increased volatility of the market; while the switch from gold to other reserve assets tends to take place during more stable periods, which allows por better timing of the transactions.

- GLOBAL FACTOR:

- Global liquidity measure (credit to GDP): we observe a negative sign statistical association of moderate intensity with gold management performance. Gopalakrishnan & Mohapatra (2018a) find a positive sign relation between this variable and the ratio of gold reserves to total reserves, which contributes to our explanatory hypothesis for the model results: in high-liquidity scenarios reserve managers have more funds available to invest and the low interest-rate investment environment favours investment in gold. The abundance of funds and the scarcity of interest generating investment alternatives may lead to asset allocation decisions which do not put much emphasis on the timing of the transactions. Conversely, low liquidity scenarios may impose pressure on reserve manager to sell gold holdings, who may not have the discretion to choose the most appropriate timing.

- VIX: displays a positive statistical association of moderate intensity, and results align with Gopalakrishnan & Mohapatra (2018a, 2018b) findings for the ratio of gold reserves to total reserves. As can be observed in the graph comparing credit and risk conditions (descriptive analysis section), liquidity tends to diminish when risk augments and vice versa. Therefore, the same discourse used for "global liquidity measure" can be applied to the explanatory hypothesis of this results in the model.

Finally, and also in connection to hypothesis 2, determinants of gold reserves levels seem to also affect gold management performance, although not always in the same direction. When comparing our gold reserves to total reserves baseline model with the baseline model for gold management performance we find that all but 4 variables ("control of corruption", "GDP growth", "income group" and "rule of law") display opposite sign relations with the dependent variable (see table below).

Figure 80: Comparative results: performance - gold reserves/total reserves determinants

DETERMINANTS OF ANNUAL GOLD RESERVES MANAGEMENT PERFORMANCE	Statistical association sign	Statistical association sign	DETERMINANTS OF GOLD RESERVES TO TOTAL RESERVES
CAPITAL_ACCOUNT_OPENNESS	+	-	CAPITAL_ACCOUNT_OPENNESS
CONTROL_OF_CORRUPTION	+	+	CONTROL_OF_CORRUPTION
CURRENT_ACCOUNT_BALANCE	+	-	CURRENT_ACCOUNT_BALANCE
DEMOCRACY_INDEX	-	+	DEMOCRACY_INDEX
FOREIGN_DIRECT_INVESTMENT____GDP_	+	-	FOREIGN_DIRECT_INVESTMENT_GDP_
GDP_GROWTH____	+	+	GDP_GROWTH____
GDP_PER_CAPITA___NOMINAL	-	+	GDP_PER_CAPITA___NOMINAL

GLOBAL_LIQUIDITY_MEASURE__ CREDIT___GDP_	-	+	GLOBAL_LIQUIDITY_MEASURE CREDIT___GDP_
GOLD_PRICE__CURRENT_USD_	-	+	GOLD_PRICE__CURRENT_ USD_
GOLD_RESERVES__CURRENT_USD_	-	+	GOLD_RESERVES__CURRENT _USD_
HUMAN_DEVELOPMENT_INDEX __HDI_	+	-	HUMAN_DEVELOPMENT_ INDEX__HDI_
INCOME_GROUP	+	+	INCOME_GROUP
INFLATION	-	+	INFLATION
INFLATION_VOLATILITY	-	+	INFLATION_VOLATILITY
POPULATION	-	+	POPULATION
RULE_OF_LAW	+	+	RULE_OF_LAW
TED RATE	-	+	TED RATE
TRADE_OPENNESS	+	-	TRADE_OPENNESS
US_EXCHANGE_LOCAL_CURRENCY	+	-	US_EXCHANGE_LOCAL_CURRENCY
VIX	+	-	VIX

Therefore, our results indicate that while determinants of gold demand by central banks act as determinants of sovereign gold reserves financial performance, the effect of most of those determinants is opposite for gold demand and gold performance. Development determinants are, in general, an exception, as they have same direction effects on both gold demand and performance. We attribute this to the fact that more developed countries are assumed to have a more solid economic position that allows for the holding of larger gold reserves (with the associated higher level of demand). Furthermore, more developed nations also tend to score higher in governance metrics, which generally implies that less public finance resources are drained through corruption, more funds are available for foreign reserves and the purchase of gold (driving gold demand) and it is more likely that technical professional profiles are in charge of reserve management decisions, which contributes to increasing overall sovereign gold management financial performance.

2.4.2.2. Robustness check

In the first robustness check (model 2), we substitute in the baseline model the variable “rule of law” by a proxy, “control of corruption”. The coefficients obtained for all variables are consistent with the results of the baseline model. “Control of corruption” displays a positive statistical association with gold management performance of similar intensity as “rule of law”.

When the variable “income group” is replaced by “GDP per capita nominal”, and “rule of law” is replaced by “democracy index”, all coefficients but the one corresponding to “gold price current USD” remain significant and of the same sign as results in the baseline model.

The use of "TED rate" instead of "global liquidity measure – credit to GDP" does not alter significance or coefficient signs (only for "GDP growth" and "inflation" in the latter). The coefficient obtained for "TED rate" is not statistically significant.

When the original sample is divided in two subsamples –countries not receiving official development aid (model 5) and countries receiving official development aid (model 6)– the model yields results which for the most part are not significant. This is mainly due to the limited number of observations in the subsamples (144 in model 5 and 189 in model 6). Significant results are consistent with those of the baseline model except in the case of "income group". The following table illustrates the contrasts (only the coefficients obtained for "income group" are statistically significant in both sub-samples).

Figure 81: Comparative of determinants of gold reserves performance in countries receiving/not receiving development aid

DETERMINANTS OF ANNUAL GOLD RESERVES MANAGEMENT PERFORMANCE	Countries not receiving official development aid: sing of the statistical association	Countries receiving official development aid: sign of the statistical association
CAPITAL_ACCOUNT_OPENNESS	-	+
CURRENT_ACCOUNT_BALANCE	+	+
FOREIGN_DIRECT_INVESTMENT____GDP_	-	-
GDP_GROWTH____	+	-
GLOBAL_LIQUIDITY_MEASURE__CREDIT___GDP_	-	-
GOLD_PRICE__CURRENT_USD_	-	-
GOLD_RESERVES__CURRENT_USD_	+	+
INCOME_GROUP	-	-
INFLATION	-	+
INFLATION_VOLATILITY	+	+
POPULATION	-	+
RULE_OF_LAW	-	+
TRADE_OPENNESS	+	-
US_EXCHANGE_LOCAL_CURRENCY	+	+
VIX	-	+

When the robustness of the baseline model is tested for pre-crisis (2000-2007) and crisis (2008-2014) years, the low number of observations (154 for the pre-crisis period –model 7– and 94 for the post-crisis years –model 8– severely reduces significance. Nonetheless, and considering

only significant coefficients, it can be observed that signs of the statistical association tend to differ in pre-crisis and post-crisis years. This aligns with the findings of Pihlman & Van der Hoorn (2010) and Karunagaran (2013) on the different management strategies adopted by gold reserve managers before and after the global financial crisis. In model 8 (post-crisis years), it is remarkable that "human development index" becomes the largest explanatory variable for annual gold management performance, displaying a significant statistical association of positive sign. We attribute this phenomenon to the fact that financial vulnerability tends to be higher in countries with low human development index scores, which may force those countries to sell gold at suboptimal times in periods of crisis and financial distress. The differences between the signs of the coefficients in these robustness checks and those in the baseline model may be due in part to the inclusion of an expanded list of instruments in the equations for model 7 and 8, which was statistically necessary due to the low number of observations. In the following table, a comparative of pre-crisis and crisis results is presented. It must be noted that from the determinants displaying differing signs, only those having statistically significant coefficients in both sub-samples are marked with a dotted pattern.

Figure 82: Comparative of determinants of gold reserves performance for pre-crisis & crisis periods

DETERMINANTS OF ANNUAL GOLD RESERVES MANAGEMENT PERFORMANCE	2000 - 2007	2008 - 2014
CAPITAL_ACCOUNT_OPENNESS	-	+
CURRENT_ACCOUNT_BALANCE	-	+
FOREIGN_DIRECT_INVESTMENT____GDP_	-	+
GDP_GROWTH____	+	+
GLOBAL_LIQUIDITY_MEASURE__CREDIT___GDP_	-	+
GOLD_PRICE__CURRENT_USD_	-	+
GOLD_RESERVES__CURRENT_USD_	+	-
HUMAN_DEVELOPMENT_INDEX	-	+
INCOME_GROUP	-	+
INFLATION	+	+
INFLATION_VOLATILITY	+	-
POPULATION	+	+
RULE_OF_LAW	+	-
TRADE_OPENNESS	+	+
US_EXCHANGE_LOCAL_CURRENCY	-	+
VIX	-	-

In model 9 we substitute the dependent variable "annual gold management performance" by its proxy "current USD gold management profit/loss". In relation to the former, the latter variable

incorporates one additional dimension; the value in current USD of each country´s gold reserves. Therefore, the coefficients obtained express in current USD the increase/decrease in profit/losses that a unit variation in each explanatory variable will be associated with. The similar number of observations to the baseline model allows for significance of results to be maintained overall. The fact that this proxy dependent variable shifts the measurement focus from performance attributable to transaction timing and sizing to profitability, which has a large gold reserves volume component, may explain the sign differences observed in model 9 in respect to the baseline model.

CHAPTER 6: CONCLUSIONS

Context and relevance of the research

Sovereign gold holdings represent on average 10.7% of the foreign reserve portfolios of countries worldwide (Lakshmi, 2007). While the ratio of gold holdings to total reserves varies substantially by country –over 50% in Portugal, Italy, France, Germany, Greece and the Netherlands; and below 0.1% in Costa Rica, Nigeria and Hong Kong (Ghosh, 2016b)–, a majority of governments continue to hold gold in their foreign reserves portfolios due mainly to its contribution to financial stability, its liquidity and international acceptance when emergency funds are needed to confront financial shocks, its role as a currency exchange rate support tool and the lower credit and political risk profile in comparison to other reserve assets. Furthermore, the global financial crisis has led central bankers and reserve managers to adopt a flight-to-quality asset allocation strategy and strengthen gold positions in their portfolios.

While the performance of private portfolio managers and corporate treasurers is closely monitored and compared to those of peer professionals, in most countries this is not the case for central bankers and reserve managers responsible for sovereign gold holdings. Taking into account that the market value of the 33,637 tonnes of gold estimated to be held by central banks at the end of Q3 of 2018 (World Gold Council, 2019) amounted to over 1,2 trillion USD – roughly the budget of the United Kingdom for 2018 (UK HM Treasury, 2018)– and that, to the best of our knowledge, no academic research exist to date on the financial performance of sovereign gold reserves, we have felt that a study on the matter was necessary in order to shed some light on how public funds held in the form of gold reserves are being managed and optimized.

Hypotheses and results

An initial analysis of the average annual profitability of gold reserves transactions for the period 2000 – 2014 was conducted for 100 countries. As can be observed in the figures presented below, the distribution is clearly skewed towards negative returns. A study of the cumulative annual performance for the same sample and period reveals that 62% of countries lost money due to the suboptimal intra-year timing and sizing of their gold transactions. When whole-period performance is considered, similar results are obtained, with 58% of countries displaying an average gold selling price inferior to their average gold acquisition price. In the 15 year-period under study, the 5 bottom performing countries in terms of sovereign gold reserves management –India, Argentina, Spain, South Korea and Russia– incurred losses of over 1,4 billion USD (an average of almost 300 million USD per country).

A preliminary study of the geographical distribution of sovereign gold management profits and losses seemed to suggest a higher prevalence of negative returns among developing countries (income groups 1, 2 and to a certain extent, 3).

These initial findings, together with the academic debates on the link between democracy and income (Acemoglu et al., 2008; Goldsmith, 1995; Lipset, 1959) and the connection between governance, development and economic performance (Kaufmann et al., 2000; Kraay, 1999), lead us to formulate the main hypothesis of this thesis:

Hypothesis 1: Development acts as a determinant of sovereign gold reserves financial performance

The main rationale behind this hypothesis is that developed nations must systematically achieve superior financial results in the management of their sovereign gold reserves when compared to those obtained by developing countries, because the former are likely to have more resources available to dedicate to sovereign gold reserves management, have better access to financial markets, be more resilient to financial and trade shocks, as well as more democratic, less corrupt and –overall– better governed.

While the main focus of this research has been whether development influences sovereign gold management performance, it has been assumed that the latter must be affected by a number of other explanatory variables. Due to the inexistence –to the best of our knowledge– of academic literature on the specific determinants of sovereign gold reserves financial performance, the determinants of gold demand by central banks (Ghosh, 2016a, 2016b; Gopalakrishnan & Mohapatra, 2018a, 2018b; Oktay et al., 2016) will be tested to assess whether they also act as determinants of sovereign gold reserves financial performance. Since central banks purchase/sell gold to maximize their economic benefit, determinants of gold demand by those actors should bear some association with the financial performance obtained. This tenet leads us to the second research hypothesis of this thesis:

Hypothesis 2: Determinants of gold demand by central banks act as determinants of sovereign gold reserves financial performance

To test **hypothesis 1**, two methodologies were used:

First, a **cross section** study of the overall 2000 – 2014 period performance was conducted. The sample covered all countries holding and reporting to the IMF sovereign gold reserves which have bought and sold gold during at least once during the period (a total of 89).

Dependent variables were “performance” and “performance ranking”, while independent variables were “GDP per capita” and “GDP per capita ranking”. “Performance” is a calculated variable based on the difference between the average price of gold bought and sold by each country in the sample.

The results produced by a simple linear regression show that Pearson´s correlation coefficients are 0.16 between “GDP per capita” and “performance”, and 0.14 between the proxy variables “GDP per capita ranking” and “performance ranking”, which are not far from the 0.18 coefficient found by Acemoglu et al. (2008) between democracy metrics and GDP per capita.

Second, a **GMM panel study** of annual sovereign gold management performance was conducted for the same 2000 – 2014 period. In this case, the sample size was 100 countries. The sampling differs from that used in the first methodology in one aspect: the sample used in the first excluded countries not having bought AND sold gold during the period covered by the study, while the sample used in the second excludes countries not having bought OR sold gold during the period covered by the study.

In this case, the dependent variable is “annual gold management performance”. As in the previous methodology, it is also a calculated variable, although the calculation method differs.

"Annual gold management performance" measures in percentage terms the value added to / deducted from a country´s gold reserves as a consequence of the optimal / suboptimal timing and sizing of the gold transactions executed in particular year.

In this methodology, a larger number of explanatory variables was used, and they were included in a baseline model where A is annual gold management performance, DEV is a vector of development factors at the country-level (income related, governance related and development and aid related), COUNTRY is a vector of macroeconomic, trade, financial and exchange rate variables at the country-level, GOLDRES measures value of gold reserves in current USD, GOLD indicates average gold price per year, GLOBAL is a vector of global factors measuring liquidity and risk, μi is a country-specific intercept, and ωit is an i.i.d error term.

For the selection of variables, it was considered important to understand development in a broad sense and include a number of variables that measured to what extent a country could be considered developed or developing. Therefore, the following variables –grouped under DEV in model equations– were used:

- Governance related: democracy index, rule of law, control of corruption, political constraint index;
- Income related: GDP per capita nominal, income group; and
- Development and aid related: human development index and official development aid as a % of GDP.

In addition to development factors, a number of other determinants were included in the modelizations (building on the referred literature about the determinants of sovereign gold reserves financial performance). These were: under the epigraph COUNTRY: trade related variables such as trade openness, current account balance; financial variables such as foreign direct investment (% GDP), capital account openness; macroeconomic variables such as GDP growth, inflation, inflation volatility; exchange rate related variables such as US exchange local currency. The label GOLDRES includes gold reserves in current USD; the label GOLD refers to gold price in current USD; and GLOBAL comprises VIX and TED rate.

Results of the baseline model appear to **confirm hypothesis 1** of this thesis, formulated in the following terms "development acts as a determinant of sovereign gold reserves financial performance". The three development components included in the baseline model equation – human development index (HDI), income group and rule of law– all show a positive and significant statistical association with the dependent variable "annual gold reserves management performance". Concerning the other explanatory variables included in the baseline model equation, results suggest that determinants of gold reserves levels seem to also affect annual gold management performance, although not always in the same direction.

Eight alternative modelizations were performed to test the robustness of the equation, and the results obtained were overall satisfactory. In the first robustness check the baseline model variable "rule of law" was substituted by a proxy, "control of corruption". In a second robustness check, the variable "income group" was replaced by "GDP per capita nominal", and "rule of law" was replaced by "democracy index". In a third robustness check, "TED rate" was used instead of "global liquidity measure – credit to GDP". In a fourth robustness check, the

original sample was divided in two subsamples –countries not receiving official development aid and countries receiving official development aid. Furthermore, the robustness of the baseline model was tested dividing the observations in pre-crisis (2000-2007) and crisis (2008-2014) years. In a final robustness test, the dependent variable "annual gold management performance" was substituted by its proxy "current USD gold management profit/loss".

To test **hypothesis 2** the same GMM panel study methodology was used, as well identical sample, period and explanatory variables. The dependent variable used was "ratio of gold reserves to total reserves".

Results suggest that determinants of gold reserves levels seem to also affect gold management performance, although not always in the same direction. When comparing the gold reserves to total reserves baseline model with the baseline model for annual gold management performance we find that all but 4 variables ("GDP growth", "income group", "rule of law" and "control of corruption") display opposite sign relations with the dependent variable. Therefore, our results indicate that while determinants of gold demand by central banks act as determinants of sovereign gold reserves financial performance, the effect of most of those determinants is opposite for gold demand and gold performance. Development determinants are, in general, an exception, as they have same direction effects on both gold demand and performance. Therefore, results appear to **confirm hypothesis 2**.

Results were tested through 11 alternative modelizations. All alternative modelizations used to test the robustness of the "annual gold performance" model were also performed for this model. In addition, 3 alternative modelizations were performed substituting the dependent variable "gold reserves to total reserves" by the proxy variables "gold reserves per capita", "gold reserves to GDP" and "gold reserves to GDP per capita". Furthermore, a final robustness check was performed reducing the number of observations by using a balanced panel. The results of these robustness tests were overall satisfactory.

The larger number of differing sign statistical associations observed when a division of the panel in two sub-panels –corresponding to the pre-crisis (2000-2007) and crisis (2008-2014) periods– was performed (for both "gold reserves performance" and "gold reserves to total reserves") compared to the division of the sample in two sub-samples –recipients / non-recipients of official development aid– suggests that global macroeconomic factors (financial shocks) may affect sovereign gold reserves management and financial performance more than specific country factors such as development levels.

Practical implications of findings

One of the most prominent findings of this thesis is that a majority of countries (for the period under study) display a suboptimal management of their sovereign gold reserves in terms of transaction timing. Taking into account that the losses resulting of the suboptimal timing of gold transactions are substantial, governments and central banks should:

- Promote capacity development of gold reserve management teams through trainings, attendance to international gold summits, etc.
- Hire highly trained and experienced professionals for gold reserve management positions.

- Contemplate the implementation of a counter-cyclical gold purchase/sale strategy.
- Implement a periodical assessment of the performance of gold reserve asset managers and study the convenience of performance-linked compensation schemes. Performance assessment could be modelled on similar practices used in the financial industry and based on the performance metrics that corporate treasurers are evaluated against in large entities or in traditional fund managers performance rankings.

In terms of sovereign gold reserves overall returns, most countries continue to regard gold as a liquidity reserve and do not seek a return per se on their holdings. However, close attention should be paid to the financial transactions that may contribute to return generation for large governmental gold holders: gold lending, gold swaps, writing of gold options.

The constatation of the statistical association between development and sovereign gold reserves financial performance sheds new light on the importance of good governance, low corruption levels and separation of powers. One clear implication of this relation is that, in order to improve the management of sovereign gold reserves and allow for the possibility of an improvement in performance, heads of state and top government officials should leave gold transaction timing decisions –to the extent possible– to central bank experts.

The positive statistical association between the variables capital account openness / trade openness and gold management performance suggests that the latter improves when countries have easier and deeper access to foreign financial and services/products markets, which allows them to face crises and external shocks without having to sell gold at what may not be the ideal timing. Therefore, from the point of view of sovereign gold reserves returns, governments would benefit from implementing measures aimed at fostering capital account and trade openness.

Current account balance also shows a positive statistical association with sovereign gold reserves financial performance. The rationale behind this association is that a healthy, non-deficitarian, current account balance would remove pressures to sell gold and allow for better timing of sovereign gold transactions, therefore generating improved overall returns. Therefore, governments have an additional interest in keeping their current account balances on the black.

A positive statistical association exists also between foreign direct investment and sovereign gold performance. Our explanation for the results obtained is that countries with higher levels of foreign direct investment tend to have higher levels of financial development, which in turn allows for better reserve management. This finding adds a new dimension to the potential benefits of foreign direct investment, which should be factored in when governments design policies on the matter.

While macroeconomic indicators such as GDP growth maintain a plus-sign statistical association with sovereign gold performance (we assume that this is due to the fact that gold reserve managers have in these bonanza scenarios more leeway to time their transactions in a more optimal manner), more dire macroeconomic contexts characterized by high inflation or high inflation volatility display a negative statistical association with sovereign gold performance. In these latter scenarios, gold reserve managers and government high officials

should not disregard a careful study of gold transaction timing and should avoid succumbing to the temptation of quick, "panic" selling of gold.

Gold reserve managers should also pay attention to the exchange rate of the local currency versus the USD (gold is mostly transacted in dollars). Ghosh (2016a, 2016b) has found that when local currencies appreciate vs. USD, central banks tend to increment their ratio of gold to total reserves. However, our study has found that periods of local currency strength are associated with negative sovereign gold performance. Our interpretation is that in those periods reserve managers, led by the subjective sensation that gold prices are low due to the strength of the domestic currency, may relax other transaction timing considerations and end up buying gold at moments in which it may be overpriced in the international market, even if its cost in local currency is lower. Obviously, this should be avoided to the extent possible.

Gold price in USD should also be carefully considered by reserve managers. Our model shows that gold purchasing in gold high-price scenarios is usually associated with suboptimal performance. Therefore, reserve managers should be aware that the purchase gold motivated by flight to quality strategies –in which they may not be able to optimally time their gold transactions due to the macroeconomic instability and the increased volatility of the market– is prone to generate negative returns, while the switch from gold to other reserve assets during more stable periods allows por better timing of the transactions and is associated with better yields.

Reserve managers (and other sovereign gold decision makers) are also heavily influenced in their asset allocation decisions by factors such as global liquidity and interest rates. In high-liquidity scenarios reserve managers have more funds available to invest and the low interest-rate environment favours investment in gold. The abundance of funds and the scarcity of interest generating investment alternatives may lead to asset allocation decisions which do not place much emphasis on the timing of the transactions. Conversely, low liquidity scenarios may impose pressure on reserve manager to sell gold holdings, who may not have the discretion to choose the most appropriate timing. To the extent possible, reserve managers should not disregard transaction timing considerations, both in high-liquidity and low-liquidity scenarios.

Contributions

To the best of our knowledge, this thesis is the first comparative study on sovereign gold reserves management performance. In that sense, it broadens the existing academic literature on sovereign gold reserves –which to date was focused on the ratio of gold reserves to total reserves– and contributes to enrich the academic literature on overall sovereign reserves. Furthermore, this research includes innovative gold reserves metrics such as "gold reserves per capita" or "gold reserves to GDP per capita", which contribute to a deeper understanding of the sovereign gold reserves panorama.

This research piece is also the first (to the best of our knowledge) to study the statistical association between development and sovereign gold reserves financial performance. Furthermore, development has not been included as a single variable dimension (i.e. GDP per capita) but measured using several variables such as the Human Development Index, the

country income group and three governance variables: rule of law, control of corruption and democracy index.

The development variables mentioned above were also used in the modelization of the determinants of the ratio of sovereign gold reserves to total reserves, which represents a novelty, as they had not been included previously by academics studying the topic.

In addition to its contributions to the literature on foreign reserves, this study also adds to the debate on development economics, as it identifies one additional dimension –sovereign gold reserves management and performance– in which results seem to suggest the existence of a gap between developed and developing countries.

Limitations

The measurement of sovereign gold reserve performance is done in this thesis through the variable "annual gold management performance", which is a calculated variable based on quarterly sovereign gold purchases/sales data provided by the IMF and the World Gold Council. While this level of chronological detail is sufficient for a first investigation of sovereign gold management performance, it is by no means exact, as the available data do not allow for a precise calculation of countries proceeds and disbursements in their gold transactions.

This research is purely quantitative. However, it may have benefitted from a qualitative addition: research on events, situations and circumstances –political, economic, etc.– that may have motivated individual sales/purchases of gold by countries. Time constraints have prevented us from including this qualitative, contextual analysis.

The research would have also benefitted from insight provided by sovereign gold reserve managers. While conversations were held with staff of the German Central Bank (Deutsche Bundesbank), with associates of the Government of Angola and with analysts from the World Gold Council, no direct contacts with sovereign gold reserves managers could be obtained.

Although data for a larger number of development and economic variables were collected, time constraints obliged us to reduce the final selection of variables included in the modelizations.

Scope for future research

This study paves the way for further research on sovereign gold reserves management performance. The following are some of the research avenues that may be pursued:

- Study of the statistical association between other independent variables and sovereign gold management performance through the inclusion of additional/alternative explanatory variables in the modelizations of sovereign gold performance.
- Qualitative secondary research about the specific causes of sovereign gold reserves sales/purchases for particular countries conducted through a review of press articles, specialized publications, etc.
- Qualitative primary research about the practices and strategies of sovereign gold reserve managers, conducted through interviews/questionnaires to individuals developing this role in central banks.

- The robustness of this study could be reinforced by obtaining data on the precise calculation of countries proceeds and disbursements in their gold transactions and using these data as model inputs.
- While the comparative nature of this study was focused on developing and developed countries, other comparative analyses of sovereign gold reserves management could be undertaken, for example: attending to geographic regions.
- Although a certain body of literature on adequate levels of gold reserves exists, the validity of these recommendations should be further analysed in view of the results of this thesis on the prevalence of negative returns in sovereign gold reserves management.

In conclusion, sovereign gold holdings represent on average 10.7% of the foreign reserve portfolios of countries worldwide and the market value of the 33,637 tonnes of gold estimated to be held by central banks at the end of Q3 of 2018 amount to over 1,2 trillion USD –roughly the budget of the United Kingdom for 2018–. Despite the magnitude of these figures, no academic research existed to date on the financial performance of sovereign gold reserve managers. This thesis intends to offer a first glance at sovereign gold performance and the factors affecting it, with a particular focus on development considerations. After identifying that 62% of countries in our sample lost money due to the suboptimal intra-year timing and sizing of their gold transactions and noting that the 5 bottom performing countries in terms of sovereign gold reserves management incurred losses of over 1,4 billion USD between the years 2000 and 2014, the results or our GMM panel modelizations suggest that **development acts as a determinant of sovereign gold reserves financial performance (hypothesis 1)** and that **determinants of gold demand by central banks act as determinants of sovereign gold reserves financial performance (hypothesis 2)**. Among others, we find two main practical implications of these findings: firstly, the association found between good governance, low corruption levels, separation of powers and sovereign gold management performance advices for the assignment of gold transacting decisions to central bank experts, who should be –to the extent possible– not subject to political influence; secondly, due to the large public finance repercussions that the decisions of these experts are likely to have, they should be hired among the most qualified international pool of experienced candidates available, continuously trained and their performance periodically assessed.

BIBLIOGRAPHY

Acemoglu, D., & Johnson, S. (2007). Disease and Development: The Effect of Life Expectancy on Economic Growth. *Journal of Political Economy*, *115*(6), 925–985. https://doi.org/10.1086/529000

Acemoglu, D., Johnson, S., Robinson, J. A., & Yared, P. (2008). Income and Democracy. *American Economic Review*, *98*(3), 808–842. https://doi.org/10.1257/aer.98.3.808

Aggarwal Raj, & Lucey Brian M. (2006). Psychological barriers in gold prices? *Review of Financial Economics*, *16*(2), 217–230. https://doi.org/10.1016/j.rfe.2006.04.001

Aizenman, J., & Inoue, K. (2013). Central banks and gold puzzles. *Journal of the Japanese and International Economies*, *28*, 69–90. https://doi.org/10.1016/j.jjie.2013.02.001

Aizenman, J., & Lee, J. (2008). Financial versus Monetary Mercantilism: Long-run View of Large International Reserves Hoarding. *The World Economy*, *31*(5), 593–611. https://doi.org/10.1111/j.1467-9701.2008.01095.x

Aizenman, J., & Marion, N. (2003). The high demand for international reserves in the Far East: What is going on? *Journal of the Japanese and International Economies*, *17*(3), 370–400. https://doi.org/10.1016/S0889-1583(03)00008-X

Alberola, E., & Serena, J. M. (2007). Global Financial Integration, Monetary Policy and Reserve Accumulation: Assessing the Limits in Emerging Economies. *SSRN Electronic Journal*. https://doi.org/10.2139/ssrn.978124

Alouini, O., & Hubert, P. (2018). *Country Size, Economic Performance and Volatility*. 23.

Anderson, T. W., & Hsiao, C. (1981). Estimation of Dynamic Models with Error Components. *Journal of the American Statistical Association*, *76*(375), 598–606. https://doi.org/10.1080/01621459.1981.10477691

Anderson, T. W., & Hsiao, C. (1982). Formulation and estimation of dynamic models using panel data. *Journal of Econometrics*, *18*(1), 47–82. https://doi.org/10.1016/0304-4076(82)90095-1

Andrade, S. C., Chhaochharia, V., & Fuerst, M. E. (2013). "Sell in May and Go Away" Just Won't Go Away. *Financial Analysts Journal*, *69*(4), 94–105. https://doi.org/10.2469/faj.v69.n4.4

Arellano, M., & Bond, S. (1991). Some Tests of Specification for Panel Data: Monte Carlo Evidence and an Application to Employment Equations. *The Review of Economic Studies*, *58*(2), 277–297. https://doi.org/10.2307/2297968

Baffes, J. (2007). Oil spills on other commodities. *Resources Policy*, *32*(3), 126–134. https://doi.org/10.1016/j.resourpol.2007.08.004

Bahmani-Oskooee, M. (1987). Effects of Rising Price of Gold on the LDSs' Demand for International Reserves. *International Economic Journal*, *1*(4), 35–44. https://doi.org/10.1080/10168738700000026

Baker, S. A., & Tassel, R. C. van. (1985). Forecasting the price of gold: A fundamentalist approach. *Atlantic Economic Journal*, *13*(4), 43–51. https://doi.org/10.1007/BF02304036

Ball, C. A., Torous, W. N., & Tschoegl, A. E. (1982). Gold and the "weekend effect". *Journal of Futures Markets*, *2*(2), 175–182. https://doi.org/10.1002/fut.3990020209

Baltagi, B. (2008). *Econometric Analysis of Panel Data*. John Wiley & Sons.

Barder, O. (2012). What Is Development? Retrieved 26 November 2018, from Center For Global Development website: https://www.cgdev.org/blog/what-development

Batchelor, R., & Gulley, D. (1995). Jewellery demand and the price of gold. *Resources Policy*, *21*(1), 37–42. https://doi.org/10.1016/0301-4207(95)92250-U

Batten, J. A., Ciner, C., & Lucey, B. M. (2014). On the economic determinants of the gold–inflation relation. *Resources Policy*, *41*, 101–108. https://doi.org/10.1016/j.resourpol.2014.03.007

Baur, D. G. (2013). The autumn effect of gold. *Research in International Business and Finance*, *27*(1), 1–11. https://doi.org/10.1016/j.ribaf.2012.05.001

Baur, D. G. (2016). *Central Banks and Gold* (SSRN Scholarly Paper No. ID 2326606). Retrieved from Social Science Research Network website: https://papers.ssrn.com/abstract=2326606

Beckmann, J., & Czudaj, R. (2013). Gold as an inflation hedge in a time-varying coefficient framework. *The North American Journal of Economics and Finance*, *24*, 208–222. https://doi.org/10.1016/j.najef.2012.10.007

Berk, J. B., & Green, R. C. (2004). Mutual Fund Flows and Performance in Rational Markets. *Journal of Political Economy*, *112*(6), 1269–1295. https://doi.org/10.1086/424739

Bernholz, P. (2002). Advantages and Disadvantages of the Holding of Gold Reserves by Central Banks - With Special Reference to the Swiss National Bank. *Swiss Journal of Economics and Statistics (SJES)*, *138*(II), 99–113.

Borenstein, S., & Farrell, J. (2007). Do investors forecast fat firms? Evidence from the gold-mining industry. *The RAND Journal of Economics*, *38*(3), 626–647. https://doi.org/10.1111/j.0741-6261.2007.00104.x

Bouman, S., & Jacobsen, B. (2002). The Halloween Indicator, 'Sell in May and Go Away': Another Puzzle. *American Economic Review*, *92*(5), 1618–1635. https://doi.org/10.1257/000282802762024683

Bruno, S., & Chincarini, L. (2010). A historical examination of optimal real return portfolios for non-US investors. *Review of Financial Economics*, *19*(4), 161–178. https://doi.org/10.1016/j.rfe.2010.06.002

Burnside, C., & Dollar, D. (2000). Aid, Policies, and Growth. *American Economic Review*, *90*(4), 847–868. https://doi.org/10.1257/aer.90.4.847

Burton. (2010). *Intro to Financial Markets and Institutions*. M.E. Sharpe.

Cai, J., Cheung, Y.-L., & Wong, M. C. S. (2001). What moves the gold market? *Journal of Futures Markets*, *21*(3), 257–278. https://doi.org/10.1002/1096-9934(200103)21:3<257::AID-FUT4>3.0.CO;2-W

Carhart, M. M. (1997). On Persistence in Mutual Fund Performance. *The Journal of Finance*, *52*(1), 57–82. https://doi.org/10.1111/j.1540-6261.1997.tb03808.x

CEIC. (2018). Taiwan GDP per Capita | Indicators & Data. Retrieved 9 May 2018, from https://www.ceicdata.com/en/indicator/taiwan/gdp-per-capita

Centre for Bhutan Studies & GNH. (2018). http://www.grossnationalhappiness.com/. Retrieved 26 November 2018, from http://www.grossnationalhappiness.com/

Cervellati, M., & Sunde, U. (2011). Life expectancy and economic growth: the role of the demographic transition. *Journal of Economic Growth*, *16*(2), 99–133. https://doi.org/10.1007/s10887-011-9065-2

Chaoyi, F. (2009). The Comparative Study of the Gold Reserve Policy between China and Japan——Analysis on the Necessity of Increasing Gold Reserve in China. *Studies of International Finance*, (11). Retrieved from http://en.cnki.com.cn/Article_en/CJFDTotal-GJJR200911012.htm

Cheung, Y.-W., & Ito, H. (2009). A Cross-Country Empirical Analysis of International Reserves. *International Economic Journal*, *23*(4), 447–481. https://doi.org/10.1080/10168730903372208

Chevalier, J., & Ellison, G. (1999). Are Some Mutual Fund Managers Better Than Others? Cross-Sectional Patterns in Behavior and Performance. *The Journal of Finance*, *54*(3), 875–899. https://doi.org/10.1111/0022-1082.00130

Christie–David, R., Chaudhry, M., & Koch, T. W. (2000). Do macroeconomics news releases affect gold and silver prices? *Journal of Economics and Business*, *52*(5), 405–421. https://doi.org/10.1016/S0148-6195(00)00029-1

Cohn, R. A., Lewellen, W. G., Lease, R. C., & Schlarbaum, G. G. (1975). Individual Investor Risk Aversion and Investment Portfolio Composition. *The Journal of Finance*, *30*(2), 605–620. https://doi.org/10.1111/j.1540-6261.1975.tb01834.x

Conway, B. (2014). Goldman on Gold: Target $1,050 an Ounce, But $1,200 is the Real 'Floor'. *Barron´s*. Retrieved from https://www.barrons.com/articles/goldman-on-gold-target-1-050-an-ounce-but-1-200-is-the-real-floor-1406231688

Cook, T. Q. (1977). *Instruments of the Money Market. Fourth Edition*.

Cremers, K. J. M., & Petajisto, A. (2009). How Active Is Your Fund Manager? A New Measure That Predicts Performance. *The Review of Financial Studies*, *22*(9), 3329–3365. https://doi.org/10.1093/rfs/hhp057

Daniel, K., Grinblatt, M., Titman, S., & Wermers, R. (1997). Measuring Mutual Fund Performance with Characteristic-Based Benchmarks. *The Journal of Finance*, *52*(3), 1035–1058. https://doi.org/10.1111/j.1540-6261.1997.tb02724.x

Dervis, K. (2006). Governance and Development. *Journal of Democracy*, *17*(4), 153–159. https://doi.org/10.1353/jod.2006.0060

Diebold, F. X., & Yilmaz, K. (2009). Measuring Financial Asset Return and Volatility Spillovers, with Application to Global Equity Markets. *The Economic Journal*, *119*(534), 158–171. https://doi.org/10.1111/j.1468-0297.2008.02208.x

Dreze, J., & Sen, A. (2013). *An Uncertain Glory: India and its Contradictions*. Penguin UK.

Dyck, I. J. A., & Pomorski, L. (2011). *Is Bigger Better? Size and Performance in Pension Plan Management* (SSRN Scholarly Paper No. ID 1690724). Retrieved from Social Science Research Network website: https://papers.ssrn.com/abstract=1690724

Edison, H. (2003). Are foreign exchange reserves in Asia too high? In *World Economic Outlook* (pp. 78–92). International Monetary Fund.

Edwards, F. R., & Caglayan, M. O. (2001). Hedge Fund Performance and Manager Skill. *Journal of Futures Markets*, *21*(11), 1003–1028. https://doi.org/10.1002/fut.2102

Edwards, S. (1985). *On the Interest Rate Elasticity of the Demand for International Reserves: Some Evidence from Developing Coutries* (Working Paper No. 1532). https://doi.org/10.3386/w1532

Eichengreen, B. (1997). *The Gold Standard in Theory and History*. Psychology Press.

Erb, C. B., & Harvey, C. R. (2013). The Golden Dilemma. *Financial Analysts Journal*, *69*(4), 10–42. https://doi.org/10.2469/faj.v69.n4.1

Feldstein, M. (1980a). Inflation, tax rules, and the prices of land and gold. *Journal of Public Economics*, *14*(3), 309–317. https://doi.org/10.1016/0047-2727(80)90029-8

Feldstein, M. (1980b). Inflation, tax rules, and the prices of land and gold. *Journal of Public Economics*, *14*(3), 309–317. https://doi.org/10.1016/0047-2727(80)90029-8

Ghosh, A. (2016a). Determinants of Gold Demand in Reserve Bank of India´s foreign exchange reserve portfolio. *Economics Bulletin*, *36*(4), 1929–1937.

Ghosh, A. (2016b). What drives gold demand in central bank's foreign exchange reserve portfolio? *Finance Research Letters*, *17*, 146–150. https://doi.org/10.1016/j.frl.2016.03.007

Goldsmith, A. A. (1995). Democracy, property rights and economic growth. *The Journal of Development Studies*, *32*(2), 157–174. https://doi.org/10.1080/00220389508422409

Gopalakrishnan, B., & Mohapatra, S. (2018a). Global risk and demand for gold by central banks. *Applied Economics Letters*, *25*(12), 835–839. https://doi.org/10.1080/13504851.2017.1371837

Gopalakrishnan, B., & Mohapatra, S. (2018b). Turning over a golden leaf? Global liquidity and emerging market central banks' demand for gold after the financial crisis. *Journal of International Financial Markets, Institutions and Money*. https://doi.org/10.1016/j.intfin.2018.07.002

Gosselin, M.-A., & Parent, N. (2005). An Empirical Analysis of Foreign Exchange Reserves in Emerging Asia. *Bank of Canada*, *Working paper 2005-38*, 42.

Griffith-Jones, S., & Ocampo, J. A. (2009). *The financial crisis and its impact on developing countries* (Working Paper No. 53). Retrieved from Working Paper website: https://www.econstor.eu/handle/10419/71832

Grinblatt, M., & Titman, S. (1989a). Mutual Fund Performance: An Analysis of Quarterly Portfolio Holdings. *The Journal of Business*, *62*(3), 393–416.

Grinblatt, M., & Titman, S. (1989b). Portfolio Performance Evaluation: Old Issues and New Insights. *The Review of Financial Studies*, *2*(3), 393–421. https://doi.org/10.1093/rfs/2.3.393

Grinblatt, M., & Titman, S. (1992). The Persistence of Mutual Fund Performance. *The Journal of Finance*, *47*(5), 1977–1984. https://doi.org/10.1111/j.1540-6261.1992.tb04692.x

Grinblatt, M., & Titman, S. (1993). Performance Measurement without Benchmarks: An Examination of Mutual Fund Returns. *The Journal of Business*, *66*(1), 47–68. Retrieved from JSTOR.

Guichang, Z. (2005). An Analytical Study of China' s International Reserves. *Studies of International Finance*, (5). Retrieved from http://en.cnki.com.cn/Article_en/CJFDTOTAL-GJJR200505009.htm

Hayakawa, K. (2009). First Difference or Forward Orthogonal Deviation- Which Transformation Should be Used in Dynamic Panel Data Models?: A Simulation Study. *Economics Bulletin*, *29*(3), 2008–2017.

Heller, H. R., & Khan, M. S. (1978). La demanda de reservas internacionales con tipos de cambio fijos y flotantes. *Staff Papers*, *25*(4), 623–649. https://doi.org/10.2307/3866600

Henderson, J. V. (2000). *The Effects of Urban Concentration on Economic Growth* (Working Paper No. 7503). https://doi.org/10.3386/w7503

Hillier, D., Draper, P., & Faff, R. (2006). Do Precious Metals Shine? An Investment Perspective. *Financial Analysts Journal*, *62*(2), 98–106. https://doi.org/10.2469/faj.v62.n2.4085

Hwang, J., & Sun, Y. (2015). *Should We Go One Step Further? An Accurate Comparison of One-step and Two-step Procedures in a Generalized Method of Moments Framework*. 61.

Hyden, G. (2007). Governance and poverty reduction in Africa. *Proceedings of the National Academy of Sciences*, *104*(43), 16751–16756. https://doi.org/10.1073/pnas.0700696104

IMF. (2015). IMF Data - IFS - Dataset Portal - At a Glance. Retrieved 27 February 2015, from http://data.imf.org/?sk=5DABAFF2-C5AD-4D27-A175-1253419C02D1

Islam, S. (1995). The human development index and per capita GDP. *Applied Economics Letters*, *2*(5), 166–167. https://doi.org/10.1080/135048595357537

Ivanov, S. I. (2013). The influence of ETFs on the price discovery of gold, silver and oil. *Journal of Economics and Finance*, *37*(3), 453–462. https://doi.org/10.1007/s12197-011-9205-8

Karunagaran, A. (2013). Global crisis and the demand for gold by central banks: a review essay with reference to india. *Journal of International Commerce, Economics and Policy*, *04*(01), 1350006. https://doi.org/10.1142/S1793993313500063

Kaufmann, D., Kraay, A., & Zoido-Lobatón, P. (2000). Governance matters: from measurement to action. *Finance & Development*, *37*(2), 10–13.

Kaufmann, & Winters. (1989). The price of gold: A simple model. *Resources Policy*, *15*(4), 309–313. https://doi.org/10.1016/0301-4207(89)90004-4

Kose, M. A., & Riezman, R. (2012). Trade shocks and macroeconomic fluctuations in Africa. In *The Tricontinental Series on Global Economic Issues*: *Vol. Volume 3*. *International Trade Agreements and Political Economy* (pp. 369–394). https://doi.org/10.1142/9789814390125_0019

Kraay, A. Z.-L., Pablo Kaufmann, Daniel. (1999). *Aggregating Governance Indicators*. https://doi.org/10.1596/1813-9450-2195

Krautkraemer, J. A. (1989). Price expectations, ore quality selection, and the supply of a nonrenewable resource. *Journal of Environmental Economics and Management*, *16*(3), 253–267. https://doi.org/10.1016/0095-0696(89)90013-2

Lacalle-Calderón, M., Chasco, C., Alfonso-Gil, J., & Neira, I. (2015). A comparative analysis of the effect of aid and microfinance on growth. *Canadian Journal of Development Studies / Revue Canadienne d'études Du Développement*, *36*(1), 72–88. https://doi.org/10.1080/02255189.2015.984664

Lakshmi, K. (2007). Should India Add More Gold to Its Foreign Exchange Reserves? *SSRN Electronic Journal*. https://doi.org/10.2139/ssrn.977127

Landell-Mills, J. M. (1989). The Demand for International Reserves and Their Opportunity Cost. *Staff Papers*, *36*(3), 708–732. https://doi.org/10.2307/3867053

Lane, P. R. (2012). The European Sovereign Debt Crisis. *Journal of Economic Perspectives*, *26*(3), 49–68. https://doi.org/10.1257/jep.26.3.49

Lane, P. R., & Burke, D. (2001). The Empirics of Foreign Reserves. *Open Economies Review*, *12*(4), 423–434. https://doi.org/10.1023/A:1017939118781

Levin, E. J., Montagnoli, A., & Wright, R. E. (2006). *Short-run and long-run determinants of the price of gold* [Report]. Retrieved from World Gold Council website: http://www.gold.org/research/short-run-and-long-run-determinants-price-gold

Levin Eric, Abhyankar Abhay, & Ghosh Dipak. (2010). Does the gold market reveal real interest rates? *The Manchester School*, *62*(S1), 93–103. https://doi.org/10.1111/j.1467-9957.1994.tb01473.x

Li Jing, G. J. (2007). A Study of Dynamics of Gold Reserve after Demonetization. *Studies of International Finance*, (04). Retrieved from http://en.cnki.com.cn/Article_en/CJFDTOTAL-GJJR200704011.htm

Lipset, S. M. (1959). Some Social Requisites of Democracy: Economic Development and Political Legitimacy1. *American Political Science Review*, *53*(1), 69–105. https://doi.org/10.2307/1951731

Lipton, M. (1999). The impact of changes in human fertility on poverty AU - Eastwood, Robert. *The Journal of Development Studies*, *36*(1), 1–30. https://doi.org/10.1080/00220389908422609

Lizondo, J., & Mathieson, D. J. (1987). The stability of the demand for international reserves. *Journal of International Money and Finance*, *6*(3), 251–282. https://doi.org/10.1016/0261-5606(87)90002-7

Luanfeng, W., & Qiushi, W. (2010). The Analysis on the Reasons for Low Gold Reserves of Emerging Market Countries--《Finance & Economics》2010年10期. *Finance & Economics*, (10). Retrieved from http://en.cnki.com.cn/Article_en/CJFDTOTAL-CJKX201010005.htm

Lucey, B. M., & Dowling, M. M. (2011). *Mood and Precious Metal Prices* (SSRN Scholarly Paper No. ID 1923788). Retrieved from Social Science Research Network website: https://papers.ssrn.com/abstract=1923788

Lucey, B. M., Larkin, C., & O'Connor, F. (2014). Gold markets around the world – who spills over what, to whom, when? *Applied Economics Letters*, *21*(13), 887–892. https://doi.org/10.1080/13504851.2014.896974

Lucey, B. M., & Zhao, S. (2008). Halloween or January? Yet another puzzle. *International Review of Financial Analysis*, *17*(5), 1055–1069. https://doi.org/10.1016/j.irfa.2006.03.003

McCown, J. R., & Zimmerman, J. R. (2006). *Is Gold a Zero-Beta Asset? Analysis of the Investment Potential of Precious Metals* [SSRN Scholarly Paper]. Retrieved from Social Science Research Network website: https://papers.ssrn.com/abstract=920496

Mozes, H. A., & Cooks, S. (2013). The Disconnect Between Physical Gold Demand and Gold Prices - ProQuest. *The Journal of Wealth Management*, *16*, 112–121.

Narayan, P. K., Narayan, S., & Zheng, X. (2010). Gold and oil futures markets: Are markets efficient? *Applied Energy*, *87*(10), 3299–3303. https://doi.org/10.1016/j.apenergy.2010.03.020

Naylor, M. J., Wongchoti, U., & Ith, H. (2014). Market Microstructure of Precious Metal ETFs. *The Journal of Index Investing*, *5*(2), 48–56. https://doi.org/10.3905/jii.2014.5.2.048

Naylor, M., Wongchoti, U., & Gianotti, C. (2011). *Abnormal Returns in Gold and Silver Exchange Traded Funds* (SSRN Scholarly Paper No. ID 1869456). Retrieved from Social Science Research Network website: https://papers.ssrn.com/abstract=1869456

Nickell, S. (1981). Biases in Dynamic Models with Fixed Effects. *Econometrica*, *49*(6), 1417–1426. https://doi.org/10.2307/1911408

O'Connor, F. A., Lucey, B. M., Batten, J. A., & Baur, D. G. (2015). The financial economics of gold — A survey. *International Review of Financial Analysis*, *41*, 186–205. https://doi.org/10.1016/j.irfa.2015.07.005

O'Connor, F. A., Lucey, B. M., & Baur, D. G. (2016). Do gold prices cause production costs? International evidence from country and company data. *Journal of International Financial Markets, Institutions and Money*, *40*, 186–196. https://doi.org/10.1016/j.intfin.2015.11.001

Oktay, B., Öztunç, H., & Serin, Z. V. (2016). Determinants of Gold Reserves: An Empirical Analysis for G-7 Countries. *Procedia Economics and Finance*, *38*, 8–16. https://doi.org/10.1016/S2212-5671(16)30172-1

Orellana, M. (2001). *MMSD Working Paper No. 30 The Washington Agreement on Gold*. Retrieved from http://pubs.iied.org/G00537/

Oxford Poverty & Human Development Initiative. (2018). Global MPI | OPHI. Retrieved 26 November 2018, from https://ophi.org.uk/multidimensional-poverty-index/

Pavabutr, P., & Chaihetphon, P. (2010). Price discovery in the Indian gold futures market. *Journal of Economics and Finance*, *34*(4), 455–467. https://doi.org/10.1007/s12197-008-9068-9

Pihlman, J., & Hoorn, H. van der. (2010). Procyclicality in Central Bank Reserve Management: Evidence From the Crisis. *IMF Working Papers*, *10*(150), 1. https://doi.org/10.5089/9781455201334.001

Qi, M., & Wang, W. (2013). The Monthly Effects in Chinese Gold Market. *International Journal of Economics and Finance*, *5*(10), 141. https://doi.org/10.5539/ijef.v5n10p141

Quantitative Micro Software. (2009). *EViews 7: user's guide.* Irvine CA: Quantitative Micro Software.

Reddy, Y. V. (2006, September). *Foreign exchange reserves - new realities and options*. Presented at the Program of Seminars 'The World in Asia, Asia in the World', Singapore. Retrieved from https://www.bis.org/review/r060921c.pdf

Roache, S. K., SRoache@imf.org, Rossi, M., & MRossi@imf.org. (2009). The Effects of Economic Newson Commodity Prices: Is Gold Just Another Commodity? *IMF Working Papers*, *09*(140), 1. https://doi.org/10.5089/9781451872873.001

Rockerbie, D. W. (1999). Gold prices and gold production: Evidence for South Africa. *Resources Policy*, *25*(2), 69–76. https://doi.org/10.1016/S0301-4207(99)00009-4

Salant, S. W., & Henderson, D. W. (1978). Market Anticipations of Government Policies and the Price of Gold. *Journal of Political Economy*, *86*(4), 627–648. https://doi.org/10.1086/260702

Samuelson, W. N. P. A. (1995). *Economics: An Introductory Analysis*. New York, NY: McGraw-Hill Education.

Sari, R., Hammoudeh, S., & Soytas, U. (2010). Dynamics of oil price, precious metal prices, and exchange rate. *Energy Economics*, *32*(2), 351–362. https://doi.org/10.1016/j.eneco.2009.08.010

Selvanathan, S., & Selvanathan, E. A. (1999). The effect of the price of gold on its production: a time-series analysis. *Resources Policy*, *25*(4), 265–275. https://doi.org/10.1016/S0301-4207(00)00002-7

Sharpe, W. F. (1966). Mutual Fund Performance. *The Journal of Business*, *39*(1), 119–138. Retrieved from JSTOR.

Smales, L. A. (2014). News sentiment in the gold futures market. *Journal of Banking & Finance*, *49*, 275–286. https://doi.org/10.1016/j.jbankfin.2014.09.006

Steiner, M., Nowak, T., & Wittrock, C. (1999). Measuring Portfolio Performance and the Empirical Content of the APT. In *Contributions to Management Science*. *Empirical Research on the German Capital Market* (pp. 207–230). https://doi.org/10.1007/978-3-642-58664-4_11

Stiglitz, J. (2017). *The Measurement of Economic Performance and Social Progress*. Presented at the International Economic Association World Congress, Mexico City. Retrieved from https://www8.gsb.columbia.edu/faculty/jstiglitz/sites/jstiglitz/files/The%20Measurement%20of%20Economic%20Performance%20and%20Social%20Progress.pdf

Summers, L. H. (2007). *Reflections on Global Account Imbalances and Emerging Markets Reserve Accumulation* (No. id:1042). Retrieved from eSocialSciences website: https://ideas.repec.org/p/ess/wpaper/id1042.html

Svirydzenka, K. (2016). *Introducing a New Broad-based Index of Financial Development*. International Monetary Fund.

Taylor, N. J. (1998). Precious metals and inflation. *Applied Financial Economics*, *8*(2), 201–210. https://doi.org/10.1080/096031098333186

Tschoegl Adrian E. (2006). Seasonality in asset returns: Evidence from the gold market. *Managerial and Decision Economics*, *8*(3), 251–254. https://doi.org/10.1002/mde.4090080312

Tully, E., & Lucey, B. M. (2007). A power GARCH examination of the gold market. *Research in International Business and Finance*, *21*(2), 316–325. https://doi.org/10.1016/j.ribaf.2006.07.001

UK HM Treasury. (2018). *United Kingdom Budget 2018*. LONDON: HM Treasury.

United Nations Development Programme. (2018). Human Development Index (HDI) | Human Development Reports. Retrieved 26 November 2018, from http://hdr.undp.org/en/content/human-development-index-hdi

US State Department. (2017). Independent States in the World. Retrieved 18 May 2018, from U.S. Department of State website: http://www.state.gov/s/inr/rls/4250.htm

Wooldridge, J. M. (2010). *Econometric Analysis of Cross Section and Panel Data* (second edition edition). Cambridge, Mass: The MIT Press.

Wooldridge, P. D. (2006). *The Changing Composition of Official Reserves* (SSRN Scholarly Paper No. ID 1632408). Retrieved from Social Science Research Network website: https://papers.ssrn.com/abstract=1632408

World Bank. (2018). WGI 2018. Retrieved 30 January 2019, from http://info.worldbank.org/governance/wgi/index.aspx#home

World Gold Council. (2015a). Quarterly times series on World Official Gold Reserves since 2000. Retrieved 18 May 2018, from https://www.gold.org/research/quarterly-times-series-world-official-gold-reserves-2000

World Gold Council. (2015b, February 27). Central Bank Gold Agreements | World Gold Council. Retrieved 27 February 2015, from http://www.gold.org/reserve-asset-management/central-bank-gold-agreements

World Gold Council. (2019, April 24). Why Are Central Banks Buying Gold | Central Bank Sentiment | Goldhub. Retrieved 24 April 2019, from https://www.gold.org/goldhub/data/world-gold-council-survey-central-bank-gold-reserves-2018

Xu, X. E., & Fung, H.-G. (2005). Cross-market linkages between U.S. and Japanese precious metals futures trading. *Journal of International Financial Markets, Institutions and Money*, *15*(2), 107–124. https://doi.org/10.1016/j.intfin.2004.03.002

Zhang, Y.-J., & Wei, Y.-M. (2010). The crude oil market and the gold market: Evidence for cointegration, causality and price discovery. *Resources Policy*, *35*(3), 168–177. https://doi.org/10.1016/j.resourpol.2010.05.003

APPENDIX

1. Variables

1.1. Panel study: dependent variables

Gold management performance

COUNTRY	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014
Afghanistan										0.000000%	0.000000%	0.000000%	0.000000%	-0.000037%	0.000000%
Albania	-0.133743%	0.005404%	1.823336%	-1.639562%	-0.000141%	0.000003%	0.000009%	0.000101%	-0.670241%	0.000231%	0.000178%	0.000005%	-0.000001%	0.000000%	0.000000%
Argentina	-28.248292%	-0.696716%	0.273979%	0.307102%	-3.321866%	-0.026818%	0.000000%	0.000000%	0.000000%	0.000000%	0.000000%	-0.816716%	0.000000%	0.000000%	0.000000%
Armenia	-0.063451%	-0.012657%	-0.000008%	12.131814%											
Australia	0.000701%	0.000000%	0.000000%	0.000000%	-0.000992%	-0.003975%	0.000000%	0.003853%	-0.001150%	0.000744%	0.000075%	-0.000048%	-0.000026%	0.000000%	0.000000%
Austria	-0.142742%	-0.538669%	-0.078072%	0.000000%	0.097989%	0.028080%	-0.063890%	-0.092508%	0.000000%	0.000000%	0.000000%	0.000000%	0.000000%	0.000000%	0.000000%
Bangladesh	-0.028956%	0.028329%	0.006192%	-0.036544%	-0.013572%	0.000000%	0.000812%	-0.026893%	-0.000536%	0.000805%	-9.404197%	0.000064%	0.000000%	-0.000035%	0.073349%
Belarus			6.073321%	2.461677%	1.014636%	-9.619519%	-1.514697%	-0.517883%	-1.502836%	0.309441%	-6.468785%	-0.624867%	0.249373%	-0.023334%	-0.047394%
Belgium	0.000000%	-0.000752%	-0.000022%	-0.002602%	0.001227%	0.199428%	0.000000%	0.000988%	0.000341%	0.000000%	0.000451%	0.000874%	0.000000%	0.002362%	0.000000%
Bolivia	-0.001162%	0.000000%	-0.183520%	0.000000%	0.000000%	0.000000%	0.000000%	0.000000%	0.000000%	0.000000%	-2.656273%	-1.265881%	0.000000%	0.034558%	0.000000%
Bosnia and Herzegovina										6.137308%	0.807378%	1.086086%	0.000000%	-5.758151%	0.000000%
Brazil	-1.208072%	-6.467104%	0.058937%	0.002889%	-0.000930%	0.000503%	-0.000058%	-0.000659%	-0.001247%	0.000000%	0.000000%	0.000000%	1.193222%	0.000000%	0.000000%
Bulgaria	-0.000219%	0.002017%	-0.010267%	0.005624%	0.001561%	0.001872%	-0.001014%	-0.000949%	0.017857%	0.002132%	-0.001320%	0.000022%	-0.000452%	0.000000%	-0.001368%
Burundi	-0.000008%	6.860240%	0.000000%	0.000000%	0.000000%	0.000000%	0.000000%	0.000000%	0.000000%	0.000000%	0.000000%	0.000000%	0.000000%	0.000000%	0.000000%
Cambodia	0.000000%	0.000000%	0.000000%	0.000000%	0.000000%	0.000000%	0.000000%	0.000000%	0.000075%	-0.000463%	0.000000%	-0.000022%	-0.000002%	0.000000%	0.000000%
Canada	0.774463%	0.068571%	0.554698%	-1.747244%	0.000000%	0.000000%	0.000000%	0.000000%	0.000000%	0.000000%	0.000000%	0.000000%	0.000000%	0.745936%	0.000000%
Chad	0.000000%	0.000000%	-0.000121%	0.000000%	0.000000%	0.000000%	0.000000%	0.000000%	0.000000%						
Chile	62.211578%	-0.002699%	-30.947137%	0.000000%	0.000000%	-2.196698%	0.000000%	0.000000%	0.000000%	0.000000%	0.000000%	0.000000%	0.000000%	0.000000%	0.000000%
China	0.000000%	-0.132958%	-1.343643%	0.000000%	0.000000%	0.000000%	0.000000%	0.000000%	0.000000%	3.815710%	0.000000%	0.000000%	0.000000%	0.000000%	0.000000%
Colombia	-0.001646%	0.000355%	-0.000333%	-0.005972%	0.000000%	0.001055%	0.315767%	-0.003389%	0.000843%	0.000000%	0.000000%	-2.096338%	0.000000%	0.000000%	0.000000%
Congo	0.000000%	0.000000%	0.000121%	0.000000%	0.000000%	0.000000%	0.000000%	0.000000%	0.000000%						
Costa Rica	-0.516690%	-0.233218%	-0.395772%	-2.116573%	0.264780%	0.857871%	-3.298285%	-7.047312%	0.322201%	-0.471977%	-0.201499%	0.740876%	-0.255254%	-1.717632%	-0.810278%
Cyprus	0.001588%	-0.005498%	0.015123%	-0.005211%	0.000546%	0.000000%	0.000000%	0.000000%	0.127710%	0.000000%	0.000000%	0.000000%	0.000000%	0.000000%	-0.003188%
Czech Republic	0.000000%	0.002313%	-0.013157%	0.021431%	0.013779%	0.012811%	-0.001064%	-0.016363%	0.011613%	-0.035603%	-0.119071%	0.020009%	0.318553%	0.050500%	-0.033676%
Denmark	0.000001%	0.000091%	0.003145%	0.005273%	0.000008%	-0.000001%	0.000000%	-0.000007%	0.000032%	0.000000%	0.000000%	0.000000%	-0.000047%	0.000002%	0.000000%
Dominican Republic	-0.099479%	0.100893%	0.001432%	0.003187%	0.000000%	0.000000%	0.000000%	0.000000%	0.000000%	0.000000%	0.000000%	0.000000%	0.000000%	0.000000%	0.000000%
Ecuador	0.000000%	0.000000%	0.000000%	0.000000%	0.000000%	0.000000%	-0.002932%	0.000000%	0.000000%	-0.000241%	0.000000%	0.000000%	0.000000%	0.000000%	1.538668%
Egypt	-0.000223%	0.000428%	-0.000612%	0.000000%	0.000000%	0.000000%	-0.000403%	0.000000%	0.000099%	0.000000%	0.000000%	0.000000%	-0.000101%	0.000548%	0.000000%
El Salvador	0.000000%	0.000000%	0.000000%	0.000000%	0.331698%	0.469947%	0.080345%	0.000000%	0.000000%	0.000000%	0.000000%	0.000000%	0.000000%	0.000000%	0.000000%
Eritrea	-2.144575%	-0.000006%	0.183441%												
Fiji	0.000000%	0.000000%	0.000000%	0.000000%	0.000000%	0.000000%	0.000000%	0.000000%	0.000000%	0.000000%	0.000000%	0.000000%	0.000000%	0.000000%	-4.657974%
Finland	0.000000%	0.000000%	0.003926%	0.000000%	-0.003294%	0.000000%	0.000000%	0.000000%	0.000000%	0.000000%	0.000000%	0.000000%	0.000000%	0.000000%	0.000000%
France	0.000000%	-0.000070%	-0.000138%	0.000049%	0.039588%	0.054049%	0.020501%	0.074458%	0.000458%	-0.110242%	0.000000%	0.000000%	-0.000020%	-0.000330%	0.000000%
Gabon	0.000000%	0.000000%	0.000157%	0.000000%	0.000000%	0.000000%	0.000000%	0.000000%	0.000000%						
Germany	0.000000%	0.025214%	-0.015263%	-0.001079%	0.001106%	-0.007880%	0.000917%	-0.003083%	0.001119%	-0.003536%	0.007471%	-0.000380%	-0.002876%	-0.010361%	0.002223%
Ghana	0.000000%	-0.001774%	0.000000%	0.000000%	0.000000%	0.000000%	0.000000%	0.000000%	0.000000%	0.000000%	0.000000%	0.000000%	0.000000%	0.000000%	0.000000%
Greece	-0.000422%	-0.480624%	0.016572%	0.567725%	-0.002279%	0.000331%	-0.118745%	-0.021083%	-0.017426%	-0.009886%	-0.011134%	-0.008719%	0.000000%	-0.004798%	-0.000817%
Guatemala	-0.031416%	-0.043729%	0.107195%	0.150929%	0.011412%	0.170365%	-0.000441%	0.015575%	0.008020%	0.004562%	0.000000%	-0.003255%	0.257201%	-0.268075%	0.000000%
Haiti	0.000000%	0.000000%	0.000000%	0.000000%	-0.000365%	-0.003664%	0.000000%	0.000000%	0.000000%	0.000000%	0.000000%	0.000000%	0.000000%	-16.886392%	0.000000%
Honduras	0.000000%	-0.000070%	0.000000%	0.000000%	0.000000%	0.000000%	0.000000%	0.000000%	0.000000%	0.000000%	0.000000%	0.007513%	0.000184%	0.006925%	-0.005517%
Hong Kong	0.000000%	0.000000%	0.000000%	0.000000%	-0.003059%	0.019049%	0.000000%	0.000000%	0.000000%	0.000000%	0.000000%	0.000000%	0.000000%	0.000000%	0.000000%
Hungary	0.000000%	0.000000%	0.000000%	0.000000%	0.053986%	0.000000%	0.000000%	0.000000%	0.000000%	0.000000%	0.000000%	0.000000%	0.000000%	0.000000%	0.000000%
Iceland	0.000000%	-0.254711%	-0.035297%	0.020875%	-0.019711%	0.013914%	0.000991%	-0.086466%	-0.004649%	-0.000175%	-0.002949%	0.000254%	0.000000%	0.000000%	0.000000%
India	0.000000%	-0.000143%	-0.000017%	0.000000%	0.000039%	0.000000%	0.000000%	0.000000%	0.000000%	-5.830484%	0.000000%	0.000000%	0.000000%	0.000000%	0.000010%
Indonesia	0.000000%	0.000000%	0.000000%	0.000000%	0.000000%	0.000556%	0.014135%	0.000000%	0.000000%	0.000000%	0.000000%	0.000000%	0.020102%	-0.179727%	0.000000%
Iraq						-0.000030%	0.000005%	0.000000%	0.000000%	0.000000%	0.000000%	0.000000%	-23.538578%	3.476151%	-6.478680%
Ireland	0.000000%	0.000000%	0.000000%	0.000000%	0.000000%	0.000000%	0.000000%	0.284958%	-0.259952%	-0.105688%	0.000000%	0.000000%	0.000000%	0.000000%	0.000000%
Italy	0.000000%	0.000000%	0.000000%	0.000000%	0.000000%	0.000000%	0.000000%	0.000000%	0.000000%	0.000000%	0.000000%	0.000000%	0.000000%	0.000000%	0.000000%
Japan	0.023428%	0.003424%	0.000000%	0.000000%	0.000000%	0.000000%	0.000000%	0.000000%	0.000000%	0.000000%	0.000000%	0.000000%	0.000000%	0.000000%	0.000000%
Jordan	-0.012304%	-0.001527%	0.003901%	0.012895%	-0.000179%	0.000723%	0.003744%	-1.807006%	-0.231861%	0.007626%	0.000000%	0.000000%	0.247289%	0.448913%	-0.084096%
Kazakhstan	0.000024%	-0.008507%	-0.148782%	3.901232%	-0.088656%	0.026090%	-0.200074%	-0.864211%	0.150228%	0.219097%	0.417775%	0.097637%	0.270359%	-0.038598%	0.642589%
Kenya	1.797159%	0.000000%	-0.369348%	0.000000%	0.000000%	0.000000%	0.000000%	0.000000%	0.000000%	0.000000%	0.000000%	0.000000%	0.000000%	1.665679%	0.000000%
Korea	0.003553%	-0.011861%	0.005584%	0.026641%	-0.008336%	0.028877%	0.315667%	-0.259436%	0.000749%	0.007468%	-0.003661%	-10.777798%	-1.291501%	-3.308078%	0.000000%
Kuwait	0.000415%	-0.016378%	-0.000178%	0.000000%	0.000000%	-0.000286%	-0.000153%	0.000000%	0.000000%	0.000000%	0.000000%	0.147249%	0.000000%	0.000000%	0.000123%
Kyrgyz Republic	0.000006%	0.000185%	0.000000%	0.000580%	-0.000050%	-0.000001%	0.000000%	0.000000%	-0.000113%	0.000001%	0.001467%	0.002657%	0.039791%	0.182778%	-0.044760%
Laos	11.182382%	-23.403003%	0.000000%	3.736762%	0.000000%	1.238887%	0.455858%	0.000000%	-0.397663%	0.000000%	0.000000%	0.000000%	0.000000%	-0.012505%	0.000000%
Latvia	0.010259%	-0.002509%	0.000000%	0.000000%	0.000000%	0.002252%	-0.003563%	0.000000%	0.000000%	0.000000%	0.000000%	0.000000%	0.000000%	0.000000%	0.238845%
Libya	0.000000%	0.000000%	0.000000%	0.000000%	0.000000%	0.000000%	0.000000%	0.000000%	0.000000%	0.000000%	0.000000%	-0.052307%	0.000000%	0.000000%	0.000000%
Lithuania	0.000000%	-0.002724%	0.003229%	0.000000%	-0.000269%	0.000000%	0.000000%	-0.039807%	0.003427%	0.009843%	0.000000%	0.000000%	0.000000%	0.000000%	0.000000%
Luxembourg	0.000000%	0.000000%	0.000000%	0.251950%	-0.013528%	0.000000%	0.061470%	0.000000%	0.014728%	0.142867%	0.000000%	0.000000%	0.000000%	0.000000%	-0.040943%
Macedonia	0.060506%	1.051946%	0.022293%	2.658789%	1.218561%	-1.077337%	0.000000%	0.000000%	0.000000%	0.000000%	0.000486%	0.001540%	0.000319%	0.000409%	0.003625%
Malawi	0.000000%	0.000000%	0.000000%	0.000000%	0.000000%	0.000000%	0.000000%	0.000000%	-0.007182%	0.000000%	0.000000%	0.000000%	-0.000174%	-0.025093%	0.000000%
Malaysia	0.000000%	0.000000%	0.000000%	0.000000%	0.000000%	0.000000%	0.000000%	0.000000%	0.000000%	0.000000%	0.000000%	0.000000%	0.000000%	0.000000%	0.037501%
Malta	-0.818366%	-0.124160%	-2.199550%	0.920703%	-0.281191%	0.000000%	2.507801%	-24.149280%	4.877171%	10.177148%	3.360180%	2.715888%	0.000000%	0.000000%	1.020123%
Mauritania	0.000000%	0.000000%	0.000000%	0.000000%	-0.563937%	0.000000%	0.000000%	0.000000%	0.000000%	0.000000%	0.000000%	0.000000%	0.000000%	0.000000%	0.000000%
Mauritius	0.000000%	0.000000%	0.000000%	0.000000%	0.000000%	0.000000%	0.000000%	0.000000%	-0.008482%	-10.907686%	-0.000026%	-0.000009%	0.052831%	0.577063%	2.216237%
Mexico	-1.550313%	-0.251646%	-0.288098%	-0.194861%	0.449136%	-0.933221%	0.942878%	1.669806%	3.311769%	2.363855%	0.137354%	4.767607%	0.102155%	-0.010653%	-0.017994%
Mongolia	-0.042587%	1.378568%	-12.355527%	8.144875%	4.171264%	20.164778%	-1.170380%	-9.628615%	1.173274%		-17.271241%	-0.706109%	-0.164564%	-7.144993%	3.911240%
Morocco	0.000433%	-0.001277%	-0.002154%	-0.000318%	-0.000130%	0.000000%	-0.000031%	0.000000%	0.000000%	-0.014731%	-0.004609%	0.000247%	0.000000%	0.000000%	0.000000%
Mozambique	-0.914553%	4.509777%	6.557501%	4.605937%	-56.950623%	-1.695820%	-0.110528%	2.591612%	0.000736%	0.565207%	0.001598%	0.018361%	0.142586%	2.789521%	2.326050%
Myanmar	0.000000%	0.000000%	0.000000%	0.000000%	0.000000%	0.000000%	0.000000%	-0.147027%	0.000000%	0.000000%	0.000000%	0.000000%	0.000000%	0.000000%	0.000000%
Nepal	-0.000047%	0.000515%	0.000024%	0.000000%	0.000087%	-1.160961%	-1.033339%				0.000000%	0.884815%	-1.015960%	-1.027864%	0.496348%
Netherlands	-0.000084%	0.195167%	0.172683%	0.780619%	0.000000%	-0.093299%	-0.123522%	0.450074%	-0.036040%	0.000000%	0.000000%	0.000000%	0.000000%	0.000000%	0.000000%
Netherlands Antilles	0.000000%	0.000000%	0.000000%	0.000000%	0.000000%	0.000000%	0.000000%	0.000000%	0.000000%	0.000000%	10.735740%				
Nicaragua		-0.001246%	0.000000%	0.000000%	-1.063063%										
Norway	0.020656%	0.000000%	-0.005086%	0.002010%											
Oman	0.000000%	0.000000%	-0.902868%	0.000000%	0.000000%	0.000000%	0.000000%	0.000000%	-0.045131%	0.000000%	0.000000%	0.000000%	-0.000872%	0.000000%	0.176900%
Pakistan	0.002235%	0.000000%	0.001125%	-0.007845%	-0.002790%	0.000000%	0.000689%	-0.025122%	0.000000%	0.000000%	-0.204744%	-0.000926%	0.002042%	0.000119%	0.002368%
Paraguay	0.000000%	0.000000%	0.000000%	0.000000%	-1.014636%				-2.951219%	0.000000%	0.000000%	0.000000%	-65.881638%	0.000000%	0.000000%
Peru	0.000000%	-0.006703%	0.000000%	0.000040%	0.000000%	0.000000%	0.000000%	0.000000%	0.000000%	0.000000%	0.000000%	0.000000%	0.000000%	0.000000%	0.000000%
Philippines	-0.017513%	-0.272292%	-0.175905%	0.508628%	0.477886%	-0.175114%	-0.158112%	-0.455975%	0.418260%	0.110218%	2.144188%	0.684037%	-0.019998%	0.024348%	0.000028%
Poland	-0.001286%	-0.002348%	-0.002036%	0.001492%	-0.000769%	0.000000%	0.000000%	0.000000%	-0.000329%	0.000059%	0.000655%	0.000000%	0.000000%	0.000000%	-0.000125%
Portugal	0.000000%	-0.000372%	0.165735%	-1.091599%	0.291268%	-0.047032%	-0.086413%	0.001203%	0.000000%	-0.000410%	0.000000%	-0.000409%	0.000000%	0.000000%	-0.000116%
Qatar	0.000000%	0.000000%	0.000000%	0.000000%	-3.661510%	-7.456080%	0.000000%	8.855648%	0.000624%	0.000000%	0.000000%	0.000000%	0.000000%	0.000000%	0.000000%
Romania	-0.011530%	-0.001198%	-0.001832%	0.028663%	0.009933%	0.000376%	-0.001965%	0.131538%	-0.000070%	0.000605%	0.000000%	-0.000151%	0.000000%	0.000000%	0.000000%
Russia	1.152910%	-0.125971%	-0.044338%	-0.074557%	0.015779%	0.133634%	-0.108015%	-0.807738%	0.183567%	-0.879613%	-0.168795%	0.067486%	0.039438%	-0.112817%	0.070761%
Saudi Arabia	0.000000%	0.000000%	0.000000%	0.000000%	0.000000%	0.000000%	0.000000%	0.000000%	-1.644708%	0.000000%	0.000000%	0.000000%	0.000000%	0.000000%	0.000000%
Serbia	#¡DIV/0!	2.258449%	-5.339206%	-0.023043%	-0.020114%	-0.321307%	0.254525%	0.041254%	0.030568%	-0.002111%	0.000000%	-0.162573%	0.050199%	-0.135840%	-0.045160%
Singapore	1.797159%	0.000000%	0.000000%	0.000000%	0.000000%	0.000000%	0.000000%	0.000000%	0.000000%	0.000000%	0.000000%	0.000000%	0.000000%	0.000000%	0.000000%
Slovakia	0.000000%	-0.190458%	0.000000%	0.000000%	0.000000%	0.000000%	0.000000%	0.000000%	0.000000%	-0.642379%	0.000000%	0.000000%	0.000000%	0.000000%	0.004195%
Slovenia	0.000000%	1144.412039%	-0.000616%	0.000593%	0.000148%	3.372228%	0.000029%	-4.421815%	-0.012894%	-0.004801%	0.069517%	-0.016468%	0.000000%	0.000000%	0.000000%
South Africa	0.627578%	-0.026073%	0.024827%	-2.219409%	-0.006179%	-0.001405%	-0.000259%	-0.012352%	0.005768%	0.003245%	-0.002321%	0.002571%	-0.001052%	0.000000%	0.000733%
Spain	-0.000146%	0.000000%	-0.000054%	-0.000428%	0.000151%	0.513047%	0.048405%	-2.470759%	0.000000%	0.000000%	0.000000%	0.000000%	0.000000%	0.000000%	0.000157%
Sri Lanka	-0.122719%	-1.317098%	-0.295733%	-5.844455%	-0.029518%	0.000000%	0.000000%	0.000000%	-0.022369%	-31.178304%	2.910977%	3.186757%	8.994421%	-1.247161%	0.175112%
Suriname	0.014312%	0.262501%	0.226971%	-1.512280%	0.003186%	1.111362%	-0.056489%	-0.522347%	0.078933%	-0.099063%	0.077315%	0.117109%	0.067510%	-4.939117%	-0.314832%
Sweden	0.032625%	0.000000%	0.000000%	0.000065%	0.000000%	-0.437303%	-0.030685%	-0.062716%	-0.034147%	-0.224602%	0.000000%	0.000000%	0.000000%	0.000000%	0.000000%
Switzerland	-0.010728%	0.004675%	0.002975%	0.021792%	0.311031%	-0.314423%	0.000000%	0.463884%	0.068387%	0.000000%	0.000019%	-0.000005%	0.000000%	-0.000074%	0.000207%
Syria	0.000000%	0.000000%	0.000000%	0.000000%	0.000000%	0.000000%	0.000000%	0.000000%	0.010667%	0.000000%	0.000000%	0.000000%	0.000000%	0.000000%	0.000000%
Taiwan	0.007829%	0.000000%	0.016948%	-0.045936%	0.011605%	0.013246%	0.002038%	0.000000%	0.008778%	0.000000%	0.000000%	-0.000813%	-0.009638%	0.000000%	0.000000%
Tajikistan	1.036961%	-0.755836%	1.073405%		-0.119539%	1.971849%	-0.429834%	-0.747928%	0.120964%	-0.038665%	6.244340%	-1.721383%	0.982381%	-2.321037%	-0.469954%
Thailand	-0.059284%	-0.058425%	0.007297%	-0.485273%	-0.097789%	0.000000%	0.000000%	0.000000%	0.000000%	0.000000%	-0.611053%	-0.843449%	0.000000%	0.000000%	0.000000%
Trinidad and Tobago	0.006296%	0.012079%	0.002897%	0.027560%	0.000263%	-0.000826%	-0.000393%	-0.000645%	-0.000961%	0.015556%	0.005269%	0.000656%	0.000822%	0.003043%	-4.376995%
Tunisia	0.022005%	0.004138%	-0.001241%	0.001774%	-0.000001%	-0.000042%	0.000000%	0.000110%	-0.002708%	0.000000%	-0.058133%	-0.000392%	0.000052%	0.049963%	0.000000%
Turkey	-0.001571%	-0.000591%	-0.000056%	0.000000%	0.000000%	0.000000%	0.000000%	0.000031%	0.000000%	0.000000%	0.000005%	0.188849%	-0.474134%	-0.749299%	0.025422%
Ukraine	0.005845%	0.006183%	-3.379885%	2.011186%	-0.295544%	-0.721287%	-0.011680%	-0.159465%	0.010360%	-0.005004%	-0.008053%	-0.000910%	0.076754%	0.539848%	0.193659%
United Arab Emirates	0.000000%	0.000000%	0.000000%	2.444439%											
United Kingdom	-0.086559%	-0.099044%	-0.778614%	-0.015484%	0.008364%	-0.001859%	-0.005917%	0.000303%	0.000000%	-0.000068%	0.000000%	0.000000%	0.000000%	0.000000%	0.000000%
United States	0.000631%	-0.012451%	0.000000%	-0.016165%	-0.000892%	-0.004098%	0.000143%	0.000000%	0.000000%	0.000000%	0.000000%	0.000000%	-0.000001%	0.000000%	0.000000%
Uruguay	-1.272343%	0.995337%	-0.336675%	0.000913%	0.023738%	-0.184704%	0.019410%	-0.043240%	0.000473%	-0.000016%	0.070953%	-0.023003%	0.001659%	0.016705%	-0.005706%
Venezuela	-0.131770%	0.135073%	0.086698%	0.065603%	0.001769%	0.010371%	-0.003065%	-0.006595%	-0.001351%	-0.127409%	0.052674%	-0.130382%	0.037483%	0.043581%	0.000000%

Gold reserves to total reserves

Gold reserves to total reserves	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014
Afghanistan									0.20098073	0.17921656	0.19139659	0.16963928	0.16355571	0.1161756	0.1126145
Albania	0.04743625	0.03981183	0.0319691	0.02780807	0.02183944	0.02466283	0.02427165	0.02669455	0.01862026	0.02323173	0.02799507	0.03135006	0.0323899	0.02197962	0.02289928
Argentina	0.00020732	0.00017097	0.000294	0.00027155	0.03943362	0.03215188	0.02427165	0.03179669	0.03300092	0.0398692	0.04738166	0.065685	0.07641645	0.07830246	0.07621126
Australia	0.03737286	0.03796992	0.04073202	0.03215495	0.03041342	0.03041919	0.02427165	0.07950835	0.06781321	0.06688751	0.0853719	0.08414313	0.08694111	0.0585274	0.0574336
Austria	0.18872988	0.19803936	0.26542173	0.33460495	0.35526073	0.42179022	0.02427165	0.41252255	0.46767102	0.54678862	0.56885762	0.55642362	0.55047927	0.46502642	0.43423033
Bangladesh	0.01967552	0.02343926	0.02237375	0.01780522	0.01530803	0.02044733	0.01845764	0.01782044	0.01694623	0.01185966	0.05463612	0.07250545	0.05668772	0.02893184	0.02394258
Belarus			0.09972921	0.06554981	0.10466267	0.15292669	0.2292611	0.05419227	0.1228038	0.14340433	0.31726566	0.23553135	0.28239719	0.25807027	0.32474338
Belgium	0.18557949	0.16917933	0.19341282	0.23942557	0.25943482	0.31302434	0.34631516	0.37011016	0.40573732	0.33338245	0.3838759	0.38456036	0.39549078	0.32684796	0.34656997
Bolivia	0.21761271	0.22652395	0.34979353	0.34655086	0.31386153	0.2603818	0.18133172	0.1429547	0.10264655	0.11555015	0.16410191	0.17374034	0.16266503	0.11409871	0.10895354
Brazil	0.01760737	0.0084593	0.00978417	0.0091423	0.00893703	0.01029893	0.00799924	0.00499495	0.00484938	0.00492581	0.0052804	0.00469925	0.00963393	0.00725238	0.00716647
Bulgaria	0.10044089	0.09746258	0.09065752	0.07833692	0.06006774	0.0754894	0.06915589	0.06079471	0.06217635	0.07530604	0.10466662	0.11407086	0.10416279	0.07788554	0.07717796
Burundi	0.12555024	0.01478283	0.00557277	0.00595219	0.00636081	0.00490173	0.00465849	0.0045234	0.00313588	0.00323468	0.00406729	0.00497987	0.00517917	0.00351502	0.00365443
Cambodia	0.17947522	0.15853086	0.15007002	0.16982513	0.15659548	0.17711362	0.18008243	0.15575578	0.13175982	0.13232618	0.1472236	0.15069575	0.13488097	0.09636066	0.07894255
Canada	0.01002085	0.00849212	0.00552058	0.00125402	0.00138477	0.00169353	0.00197619	0.00221212	0.00216088	0.00218075	0.0026806	0.00253542	0.00264603	0.0016074	0.00154988
Chad	0.02684309	0.02452181	0.01713823	0.0242109	0.02150535	0.02467817	0.01118834	0.00961934	0.00714081						
Chile	0.0013417	0.00142096	0.0001787	0.00021069	0.00021904	0.00023933	0.00025891	0.00039105	0.00029771	0.00033968	0.00039901	0.00028836	0.00031563	0.00023156	0.00023555
China	0.02029257	0.02022955	0.02220615	0.01933869	0.01356295	0.0119024	0.01134637	0.01040055	0.00853365	0.01502523	0.01636904	0.01594187	0.0166473	0.01051975	0.01047973
Colombia	0.00998042	0.00882612	0.01033515	0.01248668	0.01057391	0.01120366	0.00912957	0.00879058	0.00810203	0.00959656	0.01103829	0.01597454	0.0149679	0.00928797	0.00857427
Costa Rica	0.00041033	0.00041114	0.00048805	0.00046611	0.00042677	0.00045077	0.00078019	0.0004214	0.00049144	6.1434E-06	5.5515E-06	5.3618E-06	3.8043E-06	3.4537E-06	3.5712E-06
Cyprus	0.06819698	0.05354455	0.05007616	0.05627121	0.04954062	0.0538845	0.0497751	0.05962366	0.38607602	0.37855752	0.54904355	0.57519384	0.62308197	0.58630282	0.60307341
Czech Republic	0.00931431	0.0084877	0.00639031	0.00684192	0.00674293	0.00755087	0.00874759	0.01024644	0.0099164	0.01084938	0.01350823	0.01521482	0.01380001	0.0074719	0.00753117
Denmark	0.03744305	0.03344142	0.02646131	0.02349508	0.02341667	0.03225654	0.04375772	0.05198126	0.04396556	0.03036915	0.03930476	0.03855828	0.03969209	0.02906233	0.03422593
Dominican Republic	0.00781497	0.00458007	0.0132108	0.02730879	0.00969678	0.0048635	0.00511148	0.00501001	0.00590569	0.00555752	0.00663706	0.00680803	0.0085551	0.00468821	0.00453845
Ecuador	0.19681115	0.21775327	0.2885058	0.30271123	0.2571713	0.20191998	0.26498812	0.20004453	0.16425788	0.24232803	0.45286962	0.4373547	0.56559113	0.23420154	0.11600498
Egypt	0.04841932	0.04945113	0.05922425	0.06949286	0.06945345	0.05708659	0.05941849	0.06291332	0.06158844	0.07575829	0.09227407	0.19969696	0.25809109	0.17707411	0.19640822
El Salvador	0.06772711	0.07527586	0.098442	0.09855446	0.09481826	0.07039428	0.07518205	0.0843934	0.07666759	0.08122584	0.10881041	0.13700879	0.11688271	0.09789938	0.09766034
Fiji	0.00053289	0.00060374	0.00076393	0.00078799	0.00072535	0.0012773	0.00162324	0.00126261	0.00215966	0.0015263	0.00156053	0.00146955	0.00144491	0.00102312	0.00131601
Finland	0.05146508	0.05179007	0.05501178	0.05889253	0.05359013	0.07152896	0.13394514	0.15718977	0.16450501	0.15034342	0.23259581	0.23539946	0.23723499	0.1688298	0.17842811
France	0.41879309	0.45855172	0.54024559	0.57341043	0.54347061	0.62677686	0.56583873	0.60420065	0.67458418	0.64614187	0.66355571	0.71148783	0.70610186	0.64970809	0.65586648
Gabon	0.01819703	0.26489317	0.03054372	0.02652555	0.01252122	0.00975395	0.0072758	0.00864566	0.00577104						
Germany	0.34979968	0.37413011	0.42596824	0.47649165	0.49755396	0.55604307	0.62658884	0.67390736	0.68868502	0.66529705	0.71156827	0.71410953	0.72907176	0.6606892	0.6781866
Ghana	0.24877234	0.20667459	0.1514209	0.0797567	0.07034117	0.0759877	0.07872961	0.10561356	0.12133805	0.08277417	0.07656727	0.07274941	0.08013301	0.06057271	0.06091007
Greece	0.08014974	0.17455705	0.14300129	0.24820479	0.56016063	0.77858124	0.80144143	0.82698289	0.90148533	0.71659223	0.79386251	0.81483266	0.82500177	0.75366523	0.69908405
Guatemala	0.03283044	0.02554303	0.03125219	0.031369	0.02725772	0.02996228	0.03459691	0.04278382	0.0412642	0.046343	0.05240601	0.05494969	0.0550874	0.0367189	0.03645539
Haiti	0.00196693	0.00255066	0.00545588	0.00872078	0.003029	0.00306316	0.00226063	0.00187376	0.00161284	0.00135041	0.00097111	0.00106398	0.00100499	0.0278516	0.03450729
Honduras	0.00445246	0.00416264	0.00478953	0.00620528	0.00473452	0.00469518	0.00514896	0.00700832	0.00746901	0.0110309	0.01113633	0.0120906	0.01445123	0.00881082	0.00767856
Hungary	0.00247113	0.00259658	0.00333405	0.00329402	0.00271326	0.00272731	0.00291204	0.00342829	0.00253937	0.00243437	0.00308979	0.00310076	0.00368407	0.00256139	0.0028385
Iceland	0.03997426	0.04823905	0.04642678	0.03223185	0.02603668	0.03080058	0.01748091	0.0202374	0.01553677	0.01787001	0.01548743	0.01142692	0.02532817	0.01813436	0.01842029
India	0.07688477	0.06483824	0.05505516	0.04626399	0.03827252	0.0428116	0.04106599	0.03467286	0.03886146	0.06850133	0.08416232	0.09189961	0.09932249	0.07245809	0.06652544
Indonesia	0.02899436	0.03050945	0.03317979	0.03568747	0.03740596	0.04578933	0.0350704	0.0344127	0.03957955	0.03865195	0.03433002	0.03266716	0.03510996	0.03041947	0.02706052
Iraq					0.01044764	0.00792985	0.00597915	0.00499905	0.00327401	0.00462642	0.00523637	0.00473096	0.02266045	0.02103038	0.05247571
Ireland	0.00893184	0.00863572	0.01101777	0.01768707	0.02650916	0.10390137	0.13449143	0.15855592	0.16156678	0.09759099	0.12832561	0.17434583	0.18807964	0.14209995	0.13305058
Italy	0.45834928	0.47162072	0.48575683	0.51990992	0.55344176	0.6131436	0.66133565	0.69838086	0.64895514	0.65192815	0.69911265	0.71045797	0.72203021	0.65156869	0.66594339
Japan	0.01862914	0.01692361	0.01795605	0.01524059	0.01275753	0.01490272	0.01746833	0.02107506	0.02075936	0.025441	0.03154796	0.02906715	0.03228367	0.02339157	0.02353534
Jordan	0.03197017	0.03527873	0.03412985	0.03195742	0.03305122	0.03860773	0.03726524	0.04832105	0.04001339	0.03674241	0.04226918	0.05189847	0.08392229	0.04355912	0.04659502
Kazakhstan	0.24052389	0.20299083	0.18643228	0.14629151	0.08662188	0.13939926	0.07195267	0.10567784	0.10117348	0.10625389	0.10762422	0.13815256	0.21794911	0.2253829	0.25423148
Kenya	0.00014489	0.00012306	0.00016044	0.00014076	0.00014412	0.00014257	0.00013156	0.00012424	0.00015105	0.00014125	0.00016264	0.00017948	0.00014566	0.00010952	9.1465E-05
Korea	0.001252	0.00118704	0.00125391	0.00120583	0.00099863	0.00111532	0.00111136	0.00145703	0.00198681	0.00186444	0.00223307	0.00873016	0.01378393	0.01169941	0.01116135
Kuwait	0.08957605	0.06623349	0.08633217	0.12264481	0.11886756	0.12811351	0.11380498	0.11271936	0.1142743	0.11988048	0.14383903	0.1309378	0.12757754	0.0943415	0.08703338
Kyrgyz Republic	0.08708832	0.08019746	0.08975627	0.08683202	0.06446495	0.06960883	0.0646381	0.05888333	0.05898731	0.05703372	0.06788216	0.07012695	0.07912531	0.06245302	0.07800798
Laos	0.03221882	0.13243606	0.11450989	0.18984098	0.18687877	0.24187882	0.28899903	0.2474221	0.28307319	0.33776112	0.36320745	0.37089638	0.37279329	0.32235654	0.28200557
Latvia	0.07425857	0.05645903	0.06422897	0.06752398	0.05388134	0.05406717	0.0350437	0.03599437	0.04124892	0.03918443	0.04595859	0.05969862	0.05499706	0.03794159	0.07957611
Libya	0.09243032	0.07951575	0.09972619	0.08968219	0.07307872	0.05664074	0.04723666	0.04630388	0.04174729	0.04846664	0.06122831	0.05193888	0.05006115	0.03773047	0.04830933
Lithuania	0.0375217	0.03082755	0.02644688	0.02252158	0.02264364	0.02498074	0.02046125	0.02014116	0.02520351	0.03070463	0.03983244	0.03490718	0.03648207	0.02790223	0.02583458
Luxembourg	0.21400456	0.16594133	0.14653205	0.10055807	0.0979853	0.13603403	0.17743759	0.30059743	0.15947984	0.09680829	0.11929003	0.10906114	0.12091955	0.09004286	0.10053981
Macedonia	0.06699192	0.06719204	0.08597353	0.03966726	0.08721102	0.0835317	0.07344053	0.08037318	0.08996464	0.10373294	0.13472395	0.12595937	0.12564656	0.09571746	0.08896014
Malawi	0.01429233	0.01722568	0.02652538	0.04204486	0.04206225	0.03985554	0.05749561	0.04708392	0.04384569	0.08525411	0.05529578	0.09029683	0.08758684	0.0360788	0.02505589
Malaysia	0.01120754	0.01083921	0.01187789	0.01101746	0.00771852	0.00851867	0.00897447	0.00956409	0.01104097	0.01315741	0.01543663	0.01341055	0.01393308	0.01045032	0.01196027
Malta	0.00074615	0.00082906	0.0005518	0.00054371	0.00064088	0.00079582	0.00119447	0.00351167	0.01374188	0.01191485	0.00806632	0.02972247	0.02360618	0.02017813	0.0060361
Mauritania	0.06388727	0.07982639	0.05320523	0.15079149	0.12994009	0.08383812	0.03758723	0.04622703	0.05036366	0.05257865	0.05615131	0.03505004	0.01975562	0.01388087	0.02182763
Mauritius	0.01851645	0.02000436	0.0169355	0.01605724	0.01654696	0.02307385	0.02996243	0.02807939	0.02977087	0.05907254	0.06751082	0.06938814	0.07085472	0.04313163	0.0780894
Mexico	0.00192362	0.00142676	0.0015197	0.00120384	0.00095018	0.00074978	0.00077062	0.00113452	0.00182303	0.00299939	0.00264568	0.03496671	0.03987663	0.02645736	0.02431722
Mongolia	0.11534534	0.24650398	0.18266025	0.03279653	0.06782662		0.18929769	0.19973114	0.14496545	0.02453964	0.03980511	0.07053202	0.04747308	0.06764116	0.06746094
Morocco	0.03862152	0.02254904	0.02338812	0.02088306	0.01862907	0.02194567	0.02164783	0.02388546	0.02710365	0.0327149	0.04158534	0.05314788	0.06782151	0.0448139	0.04164434
Mozambique	0.0257864	0.01892062	0.02690933	0.01089385	0.02446045	0.04429578	0.04976394	0.05208562	0.04986921	0.03750113	0.04666203	0.04737333	0.06471322	0.06292682	0.06558873
Myanmar	0.22167112	0.13776155	0.14438786	0.14928148	0.13103406	0.13346437	0.1063862	0.05933728	0.05184272	0.04615983	0.05433381	0.04860217	0.05288754	0.03185897	0.06249981
Nepal	0.04247525	0.03912108	0.04894709	0.04956884	0.0437682	0.04230667				0.01805643	0.02191214	0.0193575	0.02516613	0.02589197	0.03042296
Netherlands	0.45485594	0.46534383	0.49530071	0.48292693	0.50679152	0.56054401	0.5480593	0.618624	0.59876468	0.54510005	0.59973103	0.59802179	0.59774059	0.51216173	0.55156575
Oman	0.03242793	0.03286141	6.6742E-05	7.1753E-05	7.524E-05	7.2741E-05	7.8346E-05	5.4101E-05	4.5055E-05	5.3468E-05	6.4744E-05	6.3942E-05	7.1408E-05	4.6667E-05	4.7503E-05
Pakistan	0.27492763	0.13705266	0.08157446	0.07402409	0.08575558	0.09690303	0.10365773	0.11102897	0.20276788	0.16815093	0.16862188	0.17911336	0.25181584	0.32612561	0.17472321
Paraguay	0.01241183	0.01335609	0.01867365	0.0148209					0.00644639	0.00597577	0.00715798	0.00652032	0.08775651	0.05402727	0.04547149
Peru	0.034797	0.03432643	0.0393074	0.04541782	0.03855603	0.0403571	0.04063214	0.03345213	0.03103715	0.0364903	0.0354386	0.034895	0.02891569	0.02041825	0.02150176
Philippines	0.13160691	0.1407007	0.1833073	0.20070328	0.19206874	0.13794759	0.12792749	0.10461127	0.11479992	0.12267775	0.11172599	0.10427429	0.12305028	0.09008836	0.09509601
Poland	0.03303066	0.03443358	0.03807967	0.04063274	0.03940155	0.0398726	0.04338198	0.04196351	0.04628234	0.04524879	0.04975451	0.05184547	0.05055942	0.03752147	0.03972914
Portugal	0.37535959	0.35813981	0.36844599	0.54143178	0.5571685	0.66435478	0.79118801	0.89074268	0.89094236	0.84742964	0.82557403	0.9050732	0.9030805	0.84209005	0.75283397
Qatar	0.00451581	0.0040154	0.00416958	0.00270521	0.00534959	0.00215357	0.00225184	0.03412295	0.03472361	0.02308162	0.01798924	0.03634982	0.02001208	0.01142327	0.01113756
Romania	0.27269835	0.19250573	0.15928849	0.14915908	0.09189659	0.08004739	0.0708391	0.06954626	0.07292245	0.0817088	0.09754699	0.10626162	0.11878901	0.08225926	0.09312037
Russian Federation	0.12264589	0.10357747	0.08840103	0.06675736	0.04315893	0.03500642	0.02701231	0.02521158	0.03408374	0.05165196	0.07436309	0.08737662	0.09527332	0.0786541	0.12129578
Saudi Arabia	0.06050657	0.06735713	0.07100412	0.07815249	0.06869556	0.01498061	0.01276082	0.0123895	0.02000865	0.02681838	0.03176804	0.02855769	0.02564069	0.01694879	0.01681844
Serbia							0.02028537	0.02262992	0.03094021	0.03012401	0.04455113	0.04529631	0.05680243	0.04075376	0.05643
Singapore	0.01386382	0.01478519	0.01683068	0.01748524	0.01571503	0.01779794	0.0187795	0.02055265	0.02006549	0.02319444	0.02489378	0.02572199	0.02563175	0.0177598	0.01888418
Slovak Republic	0.08089897	0.07010088	0.04208143	0.03877431	0.03316142	0.03741487	0.05370314	0.04961181	0.05213106	0.61620988	0.66632639	0.64710089	0.67510838	0.57178197	0.46891613
Slovenia	2.78E-05	0.01528706	0.01178583	0.01178523	0.01195149	0.01021612	0.01446869	0.08025979	0.09354612	0.10389214	0.1343258	0.15823575	0.1783016	0.13323023	0.12103067
South Africa	0.21023654	0.20736987	0.24467154	0.2034033	0.11722177	0.09917016	0.09910551	0.10118139	0.10234194	0.1102256	0.12881213	0.1262217	0.13203515	0.0974588	0.0988191
Spain	0.12971149	0.13591789	0.14310917	0.26188767	0.37299078	0.4382434	0.44042239	0.39669928	0.38813916	0.35100699	0.39926799	0.296793	0.29781202	0.23536058	0.21657436
Sri Lanka	0.08162819	0.0520415	0.04351683	0.0295022	0.03309152	0.03124573	0.0373912	0.03947424	0.05650837	0.13776812	0.06749276	0.07289787	0.10255674	0.11848673	0.10900936
Suriname	0.52748173	0.38063232	0.06213	0.07525543	0.06492359	0.11346321	0.09203368	0.08231402	0.06740182	0.09197317	0.1289551	0.13284563	0.12266866	0.05181436	0.08295434
Sweden	0.09916588	0.10549192	0.10658314	0.11220354	0.10541837	0.11169062	0.1156238	0.12853021	0.12886936	0.0930222	0.11775443	0.12324239	0.12874042	0.07448715	0.07789801
Switzerland	0.39813705	0.37912956	0.34469192	0.31497391	0.25575723	0.36956877	0.40904302	0.40836992	0.39226438	0.27024953	0.17376231	0.15486324	0.10472953	0.07511128	0.07388344
Syrian Arab Republic	0.64465383	0.64564067	0.69374328	0.73383649	0.66619362	0.02404212	0.03115498	0.03922151	0.04059274	0.04932287	0.0565418				
Tajikistan	0.01507889	0.01829982		0.04862146	0.08458026	0.109544	0.14084861	0.52959618	0.36489075	0.31527826	0.19577661	0.44253464	0.52767565	0.30331433	0.65386891
Thailand	0.01988714	0.02075392	0.02202576	0.02573065	0.02372478	0.02659778	0.02561478	0.02573524	0.02115433	0.02121275	0.02614459	0.04289471	0.04492805	0.03529296	0.03760051
Trinidad and Tobago	0.01176408	0.00872392	0.01019084	0.0103028	0.00839062	0.00629266	0.00587948	0.0075733	0.00561641	0.00723446	0.00894756	0.0090018	0.01038228	0.00697028	0.00622663
Tunisia	0.03226361	0.02944341	0.03156126	0.02993204	0.0236659	0.02456583	0.02003309	0.02260739	0.0209766	0.02099051	0.03123569	0.0426132	0.04136222	0.03477881	0.0350637
Turkey	0.04363639	0.05183615	0.04513282	0.043814	0.04382836	0.03647927	0.03750833	0.04068491	0.04406697	0.05417421	0.06103436	0.10933788	0.16143527	0.15357885	0.16100466
Ukraine	0.08427445	0.04324396	0.05760693	0.03784402	0.02343587	0.02063835	0.02302894	0.02148295	0.02354749	0.03561956	0.03597977	0.04339368	0.07726045	0.08024642	0.12157896
United Kingdom	0.08444513	0.06660167	0.06293395	0.07456757	0.07076326	0.08668674	0.0993512	0.10701537	0.13391615	0.13653036	0.14302275	0.13917045	0.14167658	0.10117782	0.09663501
United States	0.55918485	0.55692598	0.56921138	0.59302067	0.6015534	0.71271666	0.75189231	0.78553596	0.77348095	0.70373874	0.75171903	0.74516881	0.75771964	0.70227237	0.72595709
Uruguay	0.1068912	0.00071371	0.00372928	0.00167956	0.00144934	0.00140408	0.00173205	0.00172063	0.00116123	0.00114832	0.00155296	0.00125497	0.00101068	0.00061007	0.00056515
Venezuela	0.17676545	0.24664154	0.29896637	0.22986208	0.21499525	0.19743387	0.1987692	0.28327409	0.23144615	0.36759183	0.55716915	0.64452399	0.66404628	0.70219662	0.65245192

Gold reserves to GDP

Gold reserves to GDP	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014
Afghanistan									0.060000663	0.061225381	0.061999486	0.060027116	0.056961887	0.041786362	0.041124354
Albania	0.008441071	0.007554802	0.006245783	0.005024054	0.004143788	0.004351805	0.004892857	0.005393128	0.003416911	0.004569384	0.005963496	0.006010351	0.006835292	0.004770999	0.004613728
Argentina	1.83479E-05	9.26137E-06	3.15659E-05	3.01322E-05	0.00470824	0.004543087	0.004892857	0.005103458	0.004233788	0.005748154	0.005839282	0.005732139	0.006049589	0.004331109	0.004548297
Australia	0.001694837	0.001873721	0.002226864	0.002293425	0.001835307	0.001899748	0.004892857	0.002511145	0.00212111	0.003013693	0.003153548	0.002819135	0.002767978	0.001965064	0.002113556
Austria	0.01692583	0.01565365	0.016397172	0.016275723	0.014390187	0.015789016	0.004892857	0.019309449	0.018195662	0.02446365	0.032285137	0.031968018	0.036586235	0.025212039	0.024568387
Bangladesh	0.000558817	0.000566814	0.000703925	0.000776809	0.000757486	0.000831817	0.000996438	0.001181319	0.00107031	0.001196817	0.005296271	0.005171254	0.005421649	0.003488956	0.003091026
Belarus			0.004697056	0.002340447	0.003784941	0.006793	0.008601161	0.005001314	0.006190673	0.016436475	0.027863156	0.029988941	0.034802461	0.022736681	0.020880947
Belgium	0.009572673	0.009645566	0.010981858	0.01084448	0.009786607	0.009694094	0.011354744	0.012931559	0.012267458	0.016417329	0.021259164	0.021244826	0.024441088	0.016907033	0.016614081
Bolivia	0.030683466	0.031886085	0.039500539	0.047034006	0.0454839	0.048945189	0.050574304	0.057896196	0.047522608	0.057139238	0.081264817	0.086965566	0.08362699	0.053697772	0.049956935
Brazil	0.00088693	0.000542403	0.000728708	0.000807226	0.000706811	0.000621418	0.000619946	0.00064474	0.000554143	0.000704851	0.000687494	0.000632285	0.001458308	0.001052356	0.00106088
Bulgaria	0.026782164	0.025246596	0.026993918	0.025483195	0.021606427	0.022152913	0.023820504	0.024016683	0.020490042	0.026883327	0.035619289	0.03420181	0.039628145	0.027773677	0.027384359
Burundi	0.005429815	0.000303054	0.000399061	0.000511024	0.00045989	0.000441253	0.000479828	0.000590846	0.000518622	0.0006007	0.000666392	0.000624579	0.000646786	0.000426422	0.000374628
Cambodia	0.029836037	0.027749381	0.031989147	0.035813881	0.032808521	0.032593725	0.034939839	0.038586738	0.033593196	0.041801912	0.049986668	0.047709719	0.047338798	0.031625815	0.028869582
Canada	0.000437763	0.000395011	0.000270872	5.09651E-05	4.66597E-05	4.78185E-05	5.26764E-05	6.20342E-05	6.11974E-05	8.6451E-05	9.49507E-05	9.3299E-05	9.94229E-05	6.27538E-05	6.43461E-05
Chad	0.002204583	0.001799683	0.001918592	0.001696342	0.001103798	0.000858722	0.000952937	0.001073806	0.000934786						
Chile	0.000259431	0.000288265	3.93193E-05	4.41281E-05	3.53189E-05	3.29582E-05	3.24446E-05	3.79401E-05	3.82492E-05	4.98363E-05	5.0808E-05	4.79477E-05	4.92119E-05	3.41813E-05	3.65617E-05
China	0.002877388	0.003323626	0.004496037	0.004847805	0.004320982	0.004328923	0.004455693	0.00452765	0.003648701	0.007212468	0.007807795	0.006851795	0.006587541	0.004248938	0.003899054
Colombia	0.000899844	0.000920695	0.001144444	0.001440121	0.001222623	0.00114314	0.00086681	0.00088795	0.00078604	0.001025541	0.001079767	0.001519063	0.001498078	0.001054356	0.001061241
Costa Rica	3.61845E-05	3.43712E-05	4.44262E-05	4.98753E-05	4.42806E-05	5.22725E-05	0.000107603	6.48448E-05	6.10117E-05	8.17354E-07	6.89272E-07	6.03361E-07	5.61297E-07	5.08962E-07	5.0918E-07
Cyprus	0.012513322	0.012140845	0.013712042	0.013321638	0.011697682	0.0127625	0.01449693	0.016112319	0.013933765	0.018696066	0.024522605	0.024895978	0.029636715	0.022305025	0.023077838
Czech Republic	0.001985494	0.001818119	0.001849519	0.001851147	0.00160994	0.001637466	0.001770005	0.001890188	0.001557457	0.002189452	0.002765913	0.002688763	0.002986883	0.002005958	0.001974857
Denmark	0.003580097	0.003592338	0.004106051	0.004093426	0.003728142	0.004150328	0.004808166	0.005584784	0.005266333	0.007243198	0.00933929	0.009522375	0.010882795	0.007500772	0.007309927
Dominican Republic	0.000203253	0.000197616	0.000229177	0.000352726	0.00035314	0.000259859	0.000305139	0.000345357	0.000329536	0.000411292	0.000476355	0.000484529	0.000501907	0.00035169	0.000339989
Ecuador	0.012660147	0.009553795	0.010150149	0.010876675	0.010119918	0.01044913	0.011473711	0.01380753	0.011895567	0.01469837	0.017074851	0.016318737	0.015991894	0.010699108	0.004494579
Egypt	0.006685418	0.006887577	0.009489326	0.01223817	0.01351145	0.01391224	0.014376903	0.015532897	0.012986033	0.013989201	0.015609652	0.015770473	0.014478593	0.010146498	0.009595749
El Salvador	0.010926833	0.010562462	0.012698664	0.014782188	0.013374742	0.008868777	0.00926142	0.011424287	0.011271474	0.014401874	0.016997418	0.016839368	0.017358821	0.012227285	0.01164573
Fiji	0.000130372	0.000133245	0.000148804	0.000144132	0.000128469	0.000136494	0.000163907	0.000195885	0.000197492	0.00030307	0.000358031	0.000324491	0.000335145	0.000229968	0.000268991
Finland	0.003447571	0.003373618	0.003873201	0.003846373	0.003517034	0.003964761	0.004638164	0.0051582	0.004843141	0.006832034	0.008961629	0.008838903	0.010241737	0.007049075	0.006989784
France	0.019591786	0.019534268	0.0223059	0.022046356	0.019869734	0.021222404	0.023974669	0.026259606	0.023879224	0.03165253	0.041645221	0.041895049	0.048546829	0.033550248	0.033108104
Gabon	0.000695203	0.000707233	0.000828543	0.000824378	0.00072409	0.000687483	0.000790865	0.00086043	0.000719923						
Germany	0.015695955	0.015752707	0.018263307	0.018414237	0.017149029	0.019758156	0.023297842	0.026629947	0.025431219	0.034849265	0.044974755	0.04448894	0.051194995	0.034955251	0.033727085
Ghana	0.015421558	0.014618592	0.015619136	0.015361767	0.013857999	0.01343253	0.008752308	0.009462638	0.008567346	0.011763388	0.012275005	0.010873169	0.011148951	0.007080096	0.008670127
Greece	0.008988483	0.008003173	0.008767555	0.007131039	0.006306278	0.007186219	0.008356831	0.009471043	0.00887513	0.011913059	0.016845629	0.019092427	0.024363544	0.018108024	0.018393021
Guatemala	0.003073344	0.003212537	0.003569923	0.004186263	0.004006196	0.004158841	0.00464086	0.005411183	0.004906899	0.006392313	0.007541134	0.00711931	0.007317994	0.004956582	0.004551073
Haiti	9.07928E-05	0.000100561	0.000129116	0.00018436	0.000161883	0.000155672	0.000174823	0.000185299	0.000173723	0.000216025	0.000277596	0.000266408	0.000275849	0.008297249	0.008001038
Honduras	0.000826691	0.000782078	0.00094338	0.001096911	0.001068513	0.001135045	0.001254778	0.001453484	0.001349749	0.001595373	0.001898923	0.001900187	0.001974679	0.001432791	0.001344111
Hungary	0.000585903	0.000518874	0.000511213	0.000493904	0.000416255	0.000448848	0.000545302	0.000589613	0.000544425	0.000823574	0.001061726	0.001075534	0.001287142	0.000881	0.000851235
Iceland	0.001813856	0.002106966	0.002327127	0.00233169	0.002038116	0.001971877	0.002401612	0.002498275	0.003141681	0.005360158	0.006735246	0.006630005	0.007428151	0.004942469	0.004446524
India	0.006830767	0.006640082	0.007759542	0.00800426	0.007200137	0.007294467	0.007944866	0.007984064	0.008428157	0.014729634	0.015213874	0.015059402	0.016326544	0.01163298	0.010605595
Indonesia	0.00515734	0.005343988	0.005432201	0.005511261	0.005288329	0.005563045	0.004097685	0.004533171	0.004005876	0.004736322	0.00437419	0.004029087	0.004314686	0.003313112	0.00339808
Iraq					0.002255285	0.001936764	0.001840527	0.001769973	0.00124633	0.001836826	0.001913675	0.001554486	0.00731025	0.006968103	0.014842388
Ireland	0.000483741	0.000445913	0.000471482	0.000447003	0.000397627	0.00042659	0.000482077	0.000543648	0.000610362	0.000888182	0.001222166	0.001236235	0.001423724	0.00097109	0.000901817
Italy	0.018948482	0.018752374	0.021333133	0.020954612	0.019199699	0.021827661	0.025795699	0.029832995	0.028678081	0.039231238	0.052137	0.0530192	0.063281549	0.044566965	0.044181959
Japan	0.001378414	0.001580691	0.002049149	0.002309077	0.00223791	0.00265404	0.003452201	0.004542876	0.004247392	0.005114356	0.006066339	0.006117188	0.006599557	0.005747724	0.006117166
Jordan	0.013003963	0.0124762	0.014661438	0.016818525	0.015775291	0.016748638	0.017280549	0.022380376	0.016241505	0.018718333	0.021806877	0.021765058	0.023954404	0.017927392	0.020870337
Kazakhstan	0.027599641	0.022962058	0.023767689	0.023542933	0.01862182	0.017252252	0.016989839	0.017780328	0.015075081	0.021362602	0.020547259	0.020953322	0.029653195	0.023517591	0.033585489
Kenya	1.02389E-05	1.00925E-05	1.30346E-05	1.39974E-05	1.36064E-05	1.36888E-05	1.23076E-05	1.30444E-05	1.21151E-05	1.46874E-05	1.75687E-05	1.82458E-05	1.65294E-05	1.31169E-05	1.17758E-05
Korea, Rep.	0.000214564	0.000229091	0.000250151	0.000275485	0.00026007	0.000261466	0.00026268	0.000340718	0.000399545	0.000559036	0.00059605	0.002228415	0.00369423	0.003097735	0.002869432
Kuwait	0.018477701	0.020120893	0.022814024	0.022123667	0.018705602	0.016117824	0.015890833	0.018461742	0.014979123	0.026068183	0.030912243	0.025232134	0.024266464	0.017556288	0.018824352
Kyrgyz Republic	0.016649007	0.015065875	0.017739041	0.018066218	0.016456179	0.017325557	0.018636966	0.018218297	0.014059945	0.019266349	0.024358423	0.020722316	0.02475748	0.019058452	0.02044695
Laos	0.002672394	0.011300907	0.014091831	0.024157202	0.021682138	0.027325836	0.03866248	0.041460818	0.045601648	0.053215854	0.056282482	0.049946177	0.046603555	0.028745258	0.025904291
Latvia	0.008598865	0.008231834	0.008925593	0.008829122	0.007575646	0.007539257	0.007371587	0.006710169	0.006076714	0.01033484	0.01471324	0.013490849	0.014716816	0.009901251	0.008197794
Libya	0.033160437	0.037482662	0.077379383	0.073455857	0.061146464	0.050114179	0.053482046	0.057101228	0.04615223	0.079783182	0.086916311	0.165456773	0.076214985	0.068956902	0.109922235
Lithuania	0.004430982	0.004199686	0.004469705	0.004131984	0.003592965	0.003648356	0.00390895	0.003908776	0.003393531	0.005431593	0.00708041	0.006585041	0.007262103	0.004852529	0.004648369
Luxembourg	0.000980938	0.000987852	0.001103008	0.001058748	0.00093446	0.001016456	0.001109102	0.001212414	0.001136833	0.00152422	0.001901734	0.001837058	0.002113837	0.001404679	0.001309143
Macedonia	0.008171601	0.014469298	0.016900944	0.007496271	0.015215177	0.017891084	0.020223078	0.021829801	0.019157424	0.025247476	0.032606523	0.032014764	0.037280144	0.024311401	0.023208286
Malawi	0.002020706	0.002067827	0.001258638	0.001669215	0.001617507	0.001801298	0.002041216	0.002414798	0.002092268	0.002248428	0.00258494	0.00244859	0.003553754	0.002801674	0.002556905
Malaysia	0.003423685	0.003486648	0.003976563	0.004429873	0.004107904	0.004181654	0.004571668	0.005040033	0.004408785	0.006290864	0.006448345	0.006011942	0.006191517	0.004359309	0.004102502
Malta	0.000254935	0.000319146	0.000260089	0.000272041	0.000288976	0.000320883	0.00052684	0.001692784	0.000571621	0.000752357	0.000498458	0.001610283	0.001806818	0.001187271	0.000332792
Mauritania	0.002439736	0.002454383	0.002976099	0.003069831	0.002747288	0.002700686	0.002404219	0.002856365	0.002514091	0.003407219	0.003721109	0.003399142	0.003662018	0.002419846	0.002572394
Mauritius	0.003694625	0.003759978	0.004435264	0.0045884	0.004231367	0.005036276	0.005579375	0.006310817	0.005352377	0.014983909	0.017672033	0.016718406	0.018538506	0.012412773	0.023913818
Mexico	9.66753E-05	8.44788E-05	9.97342E-05	9.74292E-05	7.79853E-05	6.33248E-05	6.03055E-05	9.39869E-05	0.000156519	0.000332879	0.000301594	0.004419621	0.005546978	0.003740942	0.003620273
Mongolia	0.020502009	0.040153308	0.034965921	0.0041848	0.007076407		0.03990035	0.047249116	0.016929017	0.007104297	0.012666409	0.016585253	0.015934763	0.012084426	0.009113912
Morocco	0.0049865	0.004954069	0.005745201	0.005674233	0.005200973	0.005826072	0.006556967	0.007468185	0.006656591	0.00829989	0.010687118	0.010705018	0.012002519	0.007991991	0.007779413
Mozambique	0.003815789	0.002885484	0.004410574	0.0018447	0.004150775	0.006323706	0.007281662	0.008474912	0.007204097	0.007495822	0.010408816	0.009349509	0.013187801	0.013172959	0.012456634
Myanmar	0.00713164	0.009877148	0.011702073	0.009224289	0.009591162	0.009903101	0.010143109	0.009654284	0.006379293	0.006886346	0.006630197	0.005965499	0.006488006	0.004670531	0.004306458
Nepal	0.007632996	0.007033256	0.008655536	0.010071517	0.009200788	0.008144705				0.003960291	0.004111575	0.003789405	0.00589753	0.007301148	0.00945444
Netherlands	0.019489729	0.018433178	0.020167184	0.018237888	0.016829667	0.016892246	0.01802778	0.01984505	0.018292813	0.024959954	0.033089471	0.033730546	0.039527052	0.027366282	0.026996815
Oman	0.004088708	0.004130979	1.05159E-05	1.19193E-05	1.09307E-05	1.01999E-05	1.05563E-05	1.22432E-05	8.56822E-06	1.34847E-05	1.43804E-05	1.35212E-05	1.34093E-05	9.42984E-06	9.5645E-06
Pakistan	0.007759319	0.007994859	0.0099231 7	0.010506836	0.009381139	0.00983114	0.009725098	0.011510549	0.010758488	0.013605975	0.016401092	0.014841397	0.015361977	0.010791832	0.010229675
Paraguay	0.001169729	0.0012605	0.00189291	0.002212378					0.000997404	0.001448644	0.001488963	0.001294352	0.017822058	0.010954099	0.010287518
Peru	0.005834312	0.005924544	0.006975732	0.007920311	0.007313321	0.00751919	0.007995034	0.009097494	0.008043379	0.010034441	0.010621042	0.009937159	0.009629418	0.006673508	0.006686371
Philippines	0.024484049	0.02893434	0.036773043	0.040862945	0.034125857	0.024725653	0.024037184	0.023631545	0.024712075	0.032216137	0.034888714	0.034948245	0.041225656	0.02756721	0.026608761
Poland	0.005278695	0.004800839	0.005708456	0.006343738	0.005679699	0.005543497	0.006099794	0.006428057	0.005391378	0.008181645	0.009702629	0.009579498	0.011004124	0.007602682	0.00732032
Portugal	0.045230568	0.044375716	0.048587576	0.042055285	0.034410287	0.034897762	0.037489689	0.042696089	0.040827272	0.054868957	0.072532897	0.076876617	0.094571245	0.065517351	0.064588248
Qatar	0.000295777	0.000301749	0.00033879	0.000339349	0.000575552	0.000220151	0.000199537	0.004173348	0.003011339	0.00443792	0.004483094	0.003641908	0.003554514	0.002418967	0.002333933
Romania	0.024733726	0.022966494	0.025134004	0.023543048	0.019406831	0.017343631	0.017321409	0.01580173	0.013576492	0.021009487	0.028122932	0.027690758	0.03232334	0.020968656	0.020158691
Russian Federation	0.013060518	0.012263831	0.01237875	0.012163189	0.009219973	0.008351507	0.008289082	0.009288157	0.008748064	0.018560487	0.023369451	0.021183818	0.023182622	0.017451954	0.022700617
Saudi Arabia	0.006655793	0.006901333	0.008308174	0.008886066	0.007780132	0.007178198	0.00775186	0.00921212	0.01737118	0.026311244	0.027624537	0.023679176	0.023472472	0.016747882	0.016553612
Serbia							0.007879345	0.007983905	0.007209392	0.01076402	0.015024305	0.015190532	0.020080416	0.013816074	0.015382935
Singapore	0.011730158	0.012684423	0.015269587	0.017618884	0.015711276	0.016491023	0.017617566	0.018974417	0.018532863	0.023150758	0.024350244	0.022723651	0.023448095	0.016204835	0.015856018
Slovak Republic	0.012160124	0.010167356	0.011029788	0.010080407	0.008639018	0.009237635	0.010166268	0.010906807	0.009787704	0.012495556	0.016649215	0.015936667	0.018205067	0.012500199	0.012173704
Slovenia	4.3679E-06	0.003220081	0.003532953	0.003412154	0.003085717	0.002293472	0.00260935	0.001777026	0.001611522	0.002229335	0.002995622	0.00304464	0.003661656	0.002553378	0.002464927
South Africa	0.011874692	0.013006327	0.016523337	0.009463642	0.007622138	0.007937749	0.009331639	0.011138655	0.012144994	0.01468701	0.015040011	0.014759922	0.016886338	0.013206409	0.013833248
Spain	0.007757304	0.007433543	0.00817958	0.007742229	0.006890515	0.006523783	0.006735783	0.005102792	0.004816295	0.006568092	0.008888829	0.00931522	0.011276678	0.008007864	0.007929285
Sri Lanka	0.005654985	0.004485392	0.004487215	0.003646464	0.00353115	0.003501466	0.003746206	0.004293101	0.003631503	0.017532501	0.008560756	0.007524487	0.010649555	0.011961237	0.011278433
Suriname	0.078815732	0.095991861	0.006521451	0.006770783	0.006053751	0.008974181	0.008317607	0.01130401	0.011495257	0.015592885	0.020392864	0.024539114	0.024850711	0.007841646	0.009895508
Sweden	0.006297532	0.006870418	0.007741847	0.007512298	0.006840583	0.007139263	0.007712403	0.008176608	0.007453696	0.010230957	0.011632792	0.010989834	0.012366837	0.00841261	0.00849537
Switzerland	0.078470088	0.070142701	0.070073672	0.062084494	0.04838415	0.052064075	0.061188312	0.063965997	0.052465018	0.067157667	0.080507992	0.073180524	0.083292517	0.058499742	0.056860738
Syrian Arab Republic	0.011829561	0.010915939	0.013228962	0.015922986	0.014543589	0.014807495	0.015886376	0.017188805							
Tajikistan	0.001652025	0.001596411		0.003678162	0.007010452	0.008949637	0.010143398	0.012133598	0.011559962	0.016141664	0.013987297	0.035207639	0.043599873	0.023579764	0.036291864
Thailand	0.005139736	0.005700237	0.006380265	0.007124017	0.006839971	0.007316242	0.007739907	0.008561278	0.008059236	0.010422949	0.013185382	0.020230638	0.020509204	0.014041356	0.014507314
Trinidad and Tobago	0.002023791	0.001901846	0.002317525	0.00225694	0.00201865	0.001965588	0.002120376	0.002360217	0.00191362	0.003487904	0.003913817	0.003716585	0.00401029	0.002799508	0.002740472
Tunisia	0.002811832	0.002734801	0.00322529	0.003310411	0.003059363	0.003462213	0.004027559	0.004667175	0.004226927	0.005455652	0.006923656	0.007241918	0.008005237	0.005577297	0.00552468
Turkey	0.003758852	0.005154142	0.005366089	0.004994892	0.004039111	0.003819063	0.004295049	0.004605469	0.004247636	0.006297223	0.006796823	0.011549069	0.02201456	0.021173506	0.021960857
Ukraine	0.003982228	0.003514324	0.006063811	0.005243407	0.003510315	0.00464512	0.004778676	0.004889669	0.004126655	0.008052273	0.0091452	0.008454485	0.010791587	0.00893633	0.006865443
United Kingdom	0.002610263	0.001947617	0.001955886	0.002061357	0.001833229	0.002033652	0.002354942	0.002705197	0.003001439	0.004552499	0.005743083	0.005829569	0.006235112	0.004385286	0.003979668
United States	0.006981107	0.006820203	0.008180404	0.009480792	0.009334051	0.010247307	0.011997416	0.015059415	0.015452485	0.019722949	0.024560784	0.025799505	0.026934531	0.018870391	0.018095868
Uruguay	0.012999042	0.000105843	0.000211597	0.000290952	0.000266025	0.000248938	0.000273404	0.000302915	0.00024322	0.000291527	0.000295119	0.000269551	0.000268217	0.000172641	0.000173335
Venezuela	0.023991383	0.024611982	0.038963292	0.057232977	0.044752945	0.040437837	0.039775096	0.041513049	0.031546853	0.03825189	0.042037135	0.056889647	0.051322702	0.038374619	0.029020472

Gold reserves to GDP/capita

Gold reserves to GDP/capita	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014
Afghanistan									1637659.96	1714575.84	1785781.55	1783321.53	1748556.65	1325951.81	1347152.4
Albania	26074.696	23119.0005	19055.9469	15271.1944	12542.9938	13105.4038	14642.1051	16017.6813	10070.7082	13376.9585	17371.7894	17461.2417	19825.0877	13812.4815	13329.5405
Argentina	679.927469	347.037507	1196.01356	1154.34443	182343.995	177841.375	14642.1051	203986.377	170970.465	234521.261	240717.915	238783.016	254667.962	184245.049	195492.717
Australia	32461.2124	36374.5428	43760.9951	45628.6004	36939.9528	38744.9894	14642.1051	52301.1336	45071.9012	65372.1333	69478.1838	62979.5357	62950.6653	45483.1758	49677.3112
Austria	135602.406	125891.236	132521.238	132182.031	117596.118	129909.32	14642.1051	160181.28	151415.13	204108.133	270013.644	268264.198	308421.635	213793.625	209970.183
Bangladesh	73529.8063	76013.8184	96156.683	107991.217	107038.421	119308.386	144850.259	173818.255	159268.361	180066.752	805822.831	795917.665	844297.344	549759.331	492725.793
Belarus			46339.0281	22928.7714	36828.0259	65646.9731	82613.5003	47817.3294	58984.6427	156257.708	264437.597	284090.398	329387.715	215225.35	197836.76
Belgium	98131.8683	99219.7939	113473.175	112523.768	101987.573	101580.698	119769.364	137406.867	131384.141	177249.575	231631.052	234707.401	271986.441	189068.254	186228.181
Bolivia	255885.129	270916.139	341811.789	414389.347	407887.835	446644.866	469498.152	546623.688	456210.142	557607.427	806004.119	876468.799	856257.09	558471.006	527653.094
Brazil	155467.903	96412.4749	131277.472	147304.385	130575.161	116153.849	117177.571	123162.585	106938.048	137372.579	135296.279	125626.535	292479.75	213005.992	216645.631
Bulgaria	218814.886	202203.574	211555.683	198140.173	166733.771	169668.537	181060.177	181213.994	153522.892	200131.398	263425.98	251326.118	289518.791	201778.961	197822.913
Burundi	34754.6465	1986.77283	2690.29726	3553.20769	3303.13982	3275.5477	3682.84208	4691.06684	4259.0645	5099.36463	5842.2087	5648.38576	6027.85816	4093.72902	3705.73871
Cambodia	362578.082	344160.948	404174.207	460320.257	428590.083	432525.282	470796.476	527738.97	466290.663	588997.641	715246.233	693598.453	699519.074	475104.883	440861.323
Canada	13469.8442	12277.6877	8495.07251	1614.36922	1492.87652	1545.1129	1715.69603	2040.17769	2034.55375	2907.2224	3228.82296	3204.14586	3454.99846	2205.94653	2286.56257
Chad	18391.8645	15590.6731	17270.5698	15866.2316	10717.9215	8644.76479	9931.12813	11571.0228	10407.774						
Chile	3959.62771	4452.23794	614.309807	697.203318	564.175955	532.178313	529.488538	625.695989	637.305602	838.716656	863.397871	822.463822	851.84569	596.908155	643.990578
China	3633119.63	4227153.31	5756725.97	6245912.12	5600317.27	5643703.31	5841502.03	5966921.74	4833269.54	9601669.66	10444526.6	9209703.83	8897759.26	5767424	5319363.06
Colombia	36357.2744	37738.2778	47577.3739	60704.2165	52235.5366	49481.5515	37997.2221	39402.3795	35294.3948	46576.1635	49580.8436	70494.6252	70232.1235	49916.3571	50718.7353
Costa Rica	142.040255	137.374798	180.512825	205.784243	185.404735	222.04507	463.637371	283.337152	270.251685	3.66849917	3.1329333	2.77574654	2.61234347	2.3953781	2.42246389
Cyprus	11803.6417	11658.6347	13396.1992	13235.887	11819.4547	13115.4849	15156.671	17138.8666	15070.2444	20529.7018	27284.022	28003.867	33639.5085	25514.6293	26592.8001
Czech Republic	20361.3664	18575.0011	18859.3863	18870.5907	16416.7252	16720.5193	18122.9149	19466.7178	16173.5687	22866.5004	28971.304	28221.4939	31394.4799	21091.1881	20786.0533
Denmark	19116.3451	19250.5609	22073.8445	22065.9147	20148.8281	22492.4206	26143.308	30500.9541	28931.2393	40004.87	51811.4177	53045.0761	60851.9316	42116.3257	41253.3888
Dominican Republic	1740.38288	1718.69481	2024.16054	3163.16149	3214.62961	2400.46172	2859.55623	3282.39107	3175.57883	4017.40271	4714.95652	4858.41527	5096.83705	3615.8311	3475.43547
Ecuador	159879.879	122792.588	132683.355	144546.666	136716.521	143521.238	160258.836	196142.214	171861.945	215937.801	255007.601	247675.259	246589.666	167564.584	71477.8009
Egypt	467350.751	490581.05	688831.268	905403.615	1018518.78	1068156.07	1123685.04	1235443.92	1051269.75	1153619.8	1312890.43	1354645.19	1271412.39	911230.902	881010.37
El Salvador	64114.571	62381.5019	75433.9131	88272.3511	80258.8153	53469.512	56091.5873	69499.3645	68872.1005	88388.2736	104782.726	104278.797	107993.495	76430.03	73149.0288
Fiji	105.760401	108.490312	121.378144	117.702068	105.133083	112.17311	135.618177	163.527556	166.552656	258.205577	307.88889	281.361324	292.781298	202.30654	238.27411
Finland	17845.3462	17502.357	20142.9612	20051.1953	18387.6593	20799.5183	24425.8141	27280.2771	25733.5424	36475.3502	48064.3705	47626.4129	55448.4647	38339.7204	38174.7883
France	1193384.69	1198572.48	1378622.13	1372272.89	1245929.61	1340817.68	1525301.56	1681040.9	1537224.78	2048141.63	2708084.93	2737538.76	3187574.57	2214271.38	2195600.06
Gabon	855.880148	892.711221	1072.47415	1094.89483	988.924303	964.625198	1142.67657	1281.346	1106.09772						
Germany	1290388.14	1297234.22	1506512.75	1519803.91	1415073.74	1629443.72	1919193.53	2190749.16	2088159.84	2854235.21	3677897.42	3571348.92	4117399.64	2818987.33	2731303.67
Ghana	292065.217	283916.519	311203.822	314098.698	290831.404	289363.688	193543.501	214803.89	199607.514	281190.036	300886.2	273153.543	286896.513	186533.997	233768.844
Greece	97127.8248	86931.5245	95584.0748	77928.4881	69086.1676	78957.2484	92095.3013	104640.557	98317.2805	132318.55	187345.982	212019.477	269095.607	198558.301	200344.38
Guatemala	35806.7404	38309.3336	43584.6413	52330.2836	51266.9936	54464.3024	62173.6359	74134.7486	68727.8295	91513.68	110329.94	106425.993	111753.493	77303.9166	72469.2841
Haiti	776.205422	874.13346	1140.70911	1654.92005	1476.24342	1442.05679	1644.99294	1770.88206	1685.99064	2128.4679	2775.85815	2702.72793	2838.27307	86555.0481	84590.703
Honduras	5393.56652	5234.49539	6474.56199	7715.47313	7697.72818	8369.17808	9462.79049	11203.4168	10626.1099	12818.8569	15561.2546	15869.6021	16795.9164	12404.8006	11840.5608
Hungary	5982.64146	5286.0719	5193.21201	5003.02671	4207.14554	4527.55932	5491.94058	5929.02067	5465.03945	8254.39084	10617.2829	10724.9316	12768.9099	8715.8063	8398.67829
Iceland	510.065463	600.417797	669.102474	675.073362	595.280559	585.122977	729.566444	778.377653	997.213454	1707.20496	2142.0843	2115.0643	2382.3269	1600.19359	1455.72974
India	7193145.02	7114700.64	8456404.55	8868942.6	8108331.69	8345735.57	9231757.42	9418650.72	10089741.6	17885754.8	18727985	18782628.6	20621500.6	14873488.8	13722147.9
Indonesia	1090985.9	1146320.09	1181547.48	1215482.17	1182547.92	1261213.13	941804.472	1056179.68	946024.71	1133593.56	1060846.49	989976.877	1073852.87	835011.207	866955.999
Iraq					59351.4568	52308.9418	50978.7444	50250.3014	36282.4341	54911.2618	58869.8205	49319.2531	239604.938	236101.258	519573.805
Ireland	1840.71693	1724.00618	1853.84398	1786.45838	1618.44427	1774.57575	2060.2018	2391.47407	2740.2467	4028.23891	5573.26846	5662.0586	6548.46427	4490.13965	4200.4277
Italy	1078966.52	1068399.6	1217247.38	1200975.95	1107540.92	1265338.22	1499864.58	1743389.81	1687037.75	2318384.34	3090546.71	3148250.88	3767765.49	2684444.27	2685783.31
Japan	174842.143	200983.311	261153.794	294910.736	285917.594	339114.702	441377.664	581492.607	543933.769	654877.952	776916.087	781978.453	842294.901	732518.7	778562.074
Jordan	66360.9138	64794.9192	77522.1766	90765.781	87325.6198	95703.5775	102546.786	138605.941	105404.48	127679.921	156625.496	164869.072	191457.319	150831.466	183853.181
Kazakhstan	410782.737	341177.946	353162.859	351002.019	279569.11	261320.354	260081.887	275314.007	236286.814	343784.547	335369.73	346928.37	497939.084	400635.097	580635.506
Kenya	322.019388	326.20386	432.929849	477.744343	477.244425	493.459085	456.021482	496.807258	474.28875	590.980175	726.468878	775.20486	721.450526	587.99068	541.972431
Korea, Rep.	10086.2416	10852.0809	11918.3648	13193.606	12504.8242	12598.6008	12723.7506	16587.385	19599.556	27564.8794	29536.7522	111279.566	185449.824	156215.357	145614.081
Kuwait	37892.9788	42442.1059	48909.4577	47988.8446	41300.8277	36694.2081	37776.6088	46217.3096	39729.7281	73484.6172	92677.4702	80517.0278	82398.1375	63174.2849	71202.1713
Kyrgyz Republic	81553.4962	74502.2572	88530.2318	91113.3553	84003.8547	89444.9185	97255.1421	95981.2784	74780.627	103716.535	132702.252	114275.284	138820.14	109006.721	119318.178
Laos	14241.999	61189.531	77466.643	134788.879	122820.749	157233.57	226150.607	246683.036	275989.837	327385.847	351555.801	316333.461	298969.679	186687.718	170356.9
Latvia	20358.242	19239.1965	20619.6635	20200.6339	17144.6113	16878.8801	16352.8121	14764.5536	13230.9638	22133.8061	30861.8291	27787.2239	29938.6978	19927.7229	16344.6149
Libya	177599.046	203926.894	427715.702	412524.568	348825.842	290295.804	314551.175	340915.001	279363.046	488357.087	536198.892	1024756.69	472400.143	427254.896	681969.417
Lithuania	15506.38	14576.3463	15389.495	14111.606	12133.7111	12121.7647	12781.9098	12630.4028	10853.2958	17179.6724	21930.0277	19940.2618	21697.5148	14352.2723	13630.724
Luxembourg	427.98346	436.161324	492.134602	478.162225	428.071342	472.812848	524.202709	581.95036	555.513299	758.730714	964.089982	952.233624	1122.33356	763.246632	728.301306
Macedonia	16627.7297	29558.4903	34628.8172	15393.0387	31298.3349	36860.5004	41723.1431	45088.5372	39605.6378	52239.3759	67519.5987	66346.8524	77320.3603	50464.1225	48215.0986
Malawi	22987.9025	24185.0181	15120.9131	20592.5802	20503.5759	23488.399	27412.0249	33423.1391	29859.2427	33084.7253	39206.0313	38265.6275	57205.8556	46443.7615	43643.3922
Malaysia	79380.2146	82629.7558	96228.0863	109367.82	103412.835	107298.712	119519.691	134195.148	119526.871	173661.714	181277.73	172152.738	180609.364	129500.787	124010.511
Malta	99.4469047	125.433388	102.987153	108.430675	115.956955	129.583522	213.532415	688.495888	234.009533	310.329829	206.614777	670.309304	758.914265	505.738272	144.617409
Mauritania	6610.1214	6849.51782	8551.01163	9077.84819	8359.5099	8455.09116	7743.15639	9462.18195	8566.86842	11946.6916	13431.5019	12636.8934	14026.4058	9549.12489	10454.0044
Mauritius	4385.05008	4498.0131	5342.81201	5567.42743	5166.51182	6185.82663	6884.927	7823.07858	6659.00504	18691.362	22097.1097	20938.1989	23282.1764	15623.3743	30153.7466
Mexico	9833.78432	8706.98375	10407.8195	10292.4667	8344.08639	6868.98105	6639.17277	10511.1567	17790.2644	38449.2073	35382.6482	526332.777	670231.955	458399.994	449716.088
Mongolia	49152.2538	97162.0115	85444.7866	10333.4675	17668.5991		102065.573	122454.118	44491.6754	18956.318	34359.5343	45800.4407	44844.0242	34671.512	26648.1322
Morocco	143858.647	144568.818	169554.486	169341.457	156961.65	177817.944	202409.271	233200.651	210327.348	265512.612	346365.646	351754.307	400089.432	270327.239	266974.54
Mozambique	68942.4893	53637.5729	84416.8833	36371.2088	84313.4707	132311.347	156901.336	188044.628	164590.257	176332.2	252116.154	233167.462	338617.967	348218.894	338974.671
Myanmar	328736.261	460551.617	551638.293	439305.798	461082.691	480128.229	495455.1	474716.47	315645.846	342944.803	332543.469	301574.074	330800.817	240290.385	223609.321
Nepal	181214.286	169935.965	212634.848	251290.63	232866.866	208832.573				105902.559	111107.658	103553.631	163066.256	204324.882	267780.376
Netherlands	310383.937	295782.087	325678.427	295915.235	274016.92	275679.218	294683.907	325095.576	300836.151	412597.73	549794.596	563066.495	662274.259	459874.829	455301.508
Oman	9273.15268	9479.71797	24.5471088	28.430639	26.7229026	25.614812	27.2668811	32.6006446	23.6398262	38.875509	43.7373562	43.7718613	46.4586053	34.9986709	37.8842517
Pakistan	1074846.34	1132083.59	1435427.61	1551895.37	1414490.89	1513107.48	1527754.46	1845520.55	1760568.43	2272872.45	2797373.2	2585137.75	2733072.86	1961011.86	1898077.89
Paraguay	6202.71966	6815.04737	10427.3048	12406.9061					6031.419	8877.05155	9246.2755	8146.36989	113690.808	70826.3572	67409.8238
Peru	151195.484	155586.598	185564.697	213355.257	199457.635	207607.924	223460.748	257392.882	230378.309	291013.912	311978.726	295729.753	290413.298	203980.554	207099.344
Philippines	1909549.43	2305063.34	2991562.79	3392930.17	2889726.18	2133186.85	2110691.17	2110143.1	2242666.86	2971000.5	3270001.35	3329796.8	3993390.85	2714847.3	2663596.81
Poland	201955.645	183622.873	218236.365	242359.774	216863.527	211570.032	232653.858	245041.136	205550.382	312142.863	369115.123	364626.89	418851.787	289207.503	278258.063
Portugal	465417.929	459853.209	506264.61	439848.693	360752.665	366542.714	394477.302	450143.325	431061.568	579868.69	766897.568	811629.499	994401.886	685134.272	671786.376
Qatar	175.179156	186.14462	218.742639	233.670868	436.760391	190.400398	201.608375	4964.75201	4183.77991	7059.7542	7978.45464	7109.2009	7498.48955	5443.82091	5541.7338
Romania	555098.302	508293.76	546174.367	507925.386	416310.445	369760.748	367105.776	329987.253	278832.292	427910.445	569401.38	557900.327	648342.675	419031.186	401338.952
Russian Federation	1914627.01	1790226.07	1798707.28	1759384.08	1328294.36	1198595.91	1185749.29	1326396.06	1248719.26	2650165.49	3338313.21	3028456.96	3319790.32	2504476.05	3264795.12
Saudi Arabia	138202.971	147023.183	182001.421	200437.874	180723.835	171599.51	190527.557	232629.697	450621.775	701497.026	757621.602	668653.048	682728.696	501506.537	509465.915
Serbia							58398.3095	58933.823	52990.635	78801.3132	109548.762	109889.812	144560.463	98980.1765	109689.186
Singapore	47247.7521	52488.2928	63765.0298	72498.6412	65463.6101	70346.7784	77541.337	87065.9903	89687.8648	115466.095	123619.661	117792.315	124566.526	87492.5268	86728.0437
Slovak Republic	65527.5038	54688.8541	59306.1979	54165.7985	46411.2224	49632.0308	54623.9092	58619.9647	52650.3401	67306.1354	86528.1872	86032.2458	98445.338	67668.4918	65965.0314
Slovenia	8.6874229	6414.59402	7046.5812	6809.74866	6162.21366	4588.03095	5236.62112	3586.25571	3257.39466	4547.10641	6136.78103	6250.16803	7532.60778	5259.83902	5082.62996
South Africa	543009.647	603298.553	777029.292	450930.502	367748.29	387525.556	460652.466	555676.121	612255.018	748608.897	775833.889	771405.399	894945.741	710074.228	754459.409
Spain	314697.25	303663.306	338892.741	326626.41	295753.953	284783.73	299050.7	230782.963	221328.534	304516.092	414014.09	435418.51	527444.698	373326.971	368560.152
Sri Lanka	106211.578	84832.4615	85523.1674	70067.9287	68407.3371	68364.5804	73688.4368	85049.7226	72433.34	351966.467	172913.163	152860.081	217517.155	246222.059	234264.337
Suriname	37231.7636	45859.1517	3150.14799	3306.39	2988.31305	4477.63191	4194.62763	5761.71039	5921.75877	8117.95202	10728.7467	13044.723	13346.7451	4254.40645	5422.02581
Sweden	55872.3901	61118.9678	69095.659	67296.883	61520.9918	64464.4874	70032.5136	74800.3632	68720.3669	95132.7091	109093.789	103845.284	117724.549	80764.2397	82372.0387
Switzerland	563748.729	507121.489	510469.391	455638.166	357540.723	387206.51	457929.288	483014.725	401235.41	520057.624	629967.71	579033.43	666078.684	473224.656	465612.625
Syrian Arab Republic	194133.125	183026.448	226055.193	277303.043	258972.418	270897.369	300490.435	337464.465							
Tajikistan	10269.3288	10100.6948		24190.8171	47060.0471	61342.3846	71009.439	86784.1675	84500.1779	120623.733	106885.745	275181.11	348583.686	192830.807	303499.605
Thailand	323587.633	362212.014	408803.756	459890.59	444613.359	478668.585	509472.888	566719.03	536307.981	697106.298	886173.836	1366177.64	1391426	956821.039	992543.59
Trinidad and Tobago	2566.13495	2419.87083	2961.41961	2898.02815	2605.13854	2549.23778	2763.15552	3090.13732	2517.12156	4609.6771	5197.94071	4960.8526	5380.15718	3774.43065	3711.95029
Tunisia	27272.5127	26761.9473	31815.3125	32904.4152	30647.4733	34976.9416	41065.5384	48062.9693	43991.0459	57403.4627	73667.2269	77933.6612	87150.3576	62532.9137	61566.5276
Turkey	237710.285	330851.954	349563.447	330091.459	270652.142	259327.393	295342.203	320528.119	299203.629	449238.761	491593.262	847810.895	1641622.79	1604683.58	1691658.63
Ukraine	195829.424	171090.873	292290.839	250702.778	166570.077	218809.068	223583.495	227415.337	190891.617	370833.742	419496.721	386421.538	492024.052	406510.087	310811.951
United Kingdom	153724.923	115142.492	116121.913	122954.932	109971.59	122835.022	143290.756	165889.37	185509.913	283512.646	360472.471	368772.245	397178.525	281220.588	257138.904
United States	1969805.88	1943546.23	2352890.29	2750452.87	2733059.62	3028249.22	3579787.89	4536365.62	4699007.45	6050439.19	7597594.02	8040268.26	8457261.45	5967468.84	5765751.03
Uruguay	43173.0017	352.152081	704.148388	967.599383	884.292582	827.871448	910.719473	1011.65722	814.985839	980.3355	995.855239	912.597748	911.072299	588.36122	592.728321
Venezuela	587509.152	614031.431	990006.602	1480532.58	1178220.84	1083093.54	1083440.51	1149577.89	887782.096	1093519.13	1220255.34	1676156.21	1534193.64	1163435.86	892042.248

Gold reserves per capita

Gold reserves per capita	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014
Afghanistan									0.20098073	0.17921656	0.19139659	0.16963928	0.16355571	0.1161756	0.1126145
Albania	9.92491817	0.03981183	0.0319691	0.02780807	0.02183944	0.02466283	0.02427165	0.02669455	0.01862026	0.02323173	0.02799507	0.03135006	0.0323899	0.02197962	0.02289928
Argentina	0.14071529	0.00017097	0.000294	0.00027155	0.03943362	0.03215188	0.02427165	0.03179669	0.03300092	0.0398692	0.04738166	0.065685	0.07641645	0.07830246	0.07621126
Australia	36.7261186	0.03796992	0.04073202	0.03215495	0.03041342	0.03041919	0.02427165	0.07950835	0.06781321	0.06688751	0.0853719	0.08414313	0.08694111	0.0585274	0.0574336
Austria	415.773851	0.19803936	0.26542173	0.33460495	0.35526073	0.42179022	0.02427165	0.41252255	0.46767102	0.54678862	0.56885762	0.55642362	0.55047927	0.46502642	0.43423033
Bangladesh	0.22665793	0.02343926	0.02237375	0.01780522	0.01530803	0.02044733	0.01845764	0.01782044	0.01694623	0.01185966	0.05463612	0.07250545	0.05668772	0.02893184	0.02394258
Belarus			0.09972921	0.06554981	0.10466267	0.15292669	0.2292611	0.05419227	0.1228038	0.14340433	0.31726566	0.23553135	0.28239719	0.25807027	0.32474338
Belgium	222.156917	0.16917933	0.19341282	0.23942557	0.25943482	0.31302434	0.34631516	0.37011016	0.40573732	0.33338245	0.3838759	0.38456036	0.39549078	0.32684796	0.34656997
Bolivia	30.8983379	0.22652395	0.34979353	0.34655086	0.31386153	0.2603818	0.18133172	0.1429547	0.10264655	0.11555015	0.16410191	0.17374034	0.16266503	0.11409871	0.10895354
Brazil	3.31633606	0.0084593	0.00978417	0.0091423	0.00893703	0.01029893	0.00799924	0.00499495	0.00484938	0.00492581	0.0052804	0.00469925	0.00963393	0.00725238	0.00716647
Bulgaria	43.1161358	0.09746258	0.09065752	0.07833692	0.06006774	0.0754894	0.06915589	0.06079471	0.06217635	0.07530604	0.10466662	0.11407086	0.10416279	0.07788554	0.07717796
Burundi	0.73844634	0.01478283	0.00557277	0.00595219	0.00636081	0.00490173	0.00465849	0.0045234	0.00313588	0.00323468	0.00406729	0.00497987	0.00517917	0.00351502	0.00365443
Cambodia	9.0298466	0.15853086	0.15007002	0.16982513	0.15659548	0.17711362	0.18008243	0.15575578	0.13175982	0.13232618	0.1472236	0.15069575	0.13488097	0.09636066	0.07894255
Canada	10.5606749	0.00849212	0.00552058	0.00125402	0.00138477	0.00169353	0.00197619	0.00221212	0.00216088	0.00218075	0.0026806	0.00253542	0.00264603	0.0016074	0.00154988
Chad	0.36601189	0.02452181	0.01713823	0.0242109	0.02150535	0.02467817	0.01118834	0.00961934	0.00714081						
Chile	1.32345185	0.00142096	0.0001787	0.00021069	0.00021904	0.00023933	0.00025891	0.00039105	0.00029771	0.00033968	0.00039901	0.00028836	0.00031563	0.00023156	0.00023555
China	2.76048691	0.02022955	0.02220615	0.01933869	0.01356295	0.0119024	0.01134637	0.01040055	0.00853365	0.01502523	0.01636904	0.01594187	0.0166473	0.01051975	0.01047973
Colombia	2.22459332	0.00882612	0.01033515	0.01248668	0.01057391	0.01120366	0.00912957	0.00879058	0.00810203	0.00959656	0.01103829	0.01597454	0.0149679	0.00928797	0.00857427
Costa Rica	0.1378038	0.00041114	0.00048805	0.00046611	0.00042677	0.00045077	0.00078019	0.0004214	0.00049144	6.1434E-06	5.5515E-06	5.3618E-06	3.8043E-06	3.4537E-06	3.5712E-06
Cyprus	135.088547	0.05354455	0.05007616	0.05627121	0.04954062	0.0538845	0.0497751	0.05962366	0.38607602	0.37855752	0.54904355	0.57519384	0.62308197	0.58630282	0.60307341
Czech Republic	11.9360261	0.0084877	0.00639031	0.00684192	0.00674293	0.00755087	0.00874759	0.01024644	0.0099164	0.01084938	0.01350823	0.01521482	0.01380001	0.0074719	0.00753117
Denmark	110.064935	0.03344142	0.02646131	0.02349508	0.02341667	0.03225654	0.04375772	0.05198126	0.04396556	0.03036915	0.03930476	0.03855828	0.03969209	0.02906233	0.03422593
Dominican Republic	0.57693777	0.00458007	0.0132108	0.02730879	0.00969678	0.0048635	0.00511148	0.00501001	0.00590569	0.00555752	0.00663706	0.00680803	0.0085551	0.00468821	0.00453845
Ecuador	18.3735543	0.21775327	0.2885058	0.30271123	0.2571713	0.20191998	0.26498812	0.20004453	0.16425788	0.24232803	0.45286962	0.4373547	0.56559113	0.23420154	0.11600498
Egypt	9.54800038	0.04945113	0.05922425	0.06949286	0.06945345	0.05708659	0.05941849	0.06291332	0.06158844	0.07575829	0.09227407	0.19969696	0.25809109	0.17707411	0.19640822
El Salvador	21.9461738	0.07527586	0.098442	0.09855446	0.09481826	0.07039428	0.07518205	0.0843934	0.07666759	0.08122584	0.10881041	0.13700879	0.11688271	0.09789938	0.09766034
Fiji	0.27065308	0.00060374	0.00076393	0.00078799	0.00072535	0.0012773	0.00162324	0.00126261	0.00215966	0.0015263	0.00156053	0.00146955	0.00144491	0.00102312	0.00131601
Finland	83.6147941	0.05179007	0.05501178	0.05889253	0.05359013	0.07152896	0.13394514	0.15718977	0.16450501	0.15034342	0.23259581	0.23539946	0.23723499	0.1688298	0.17842811
France	438.151287	0.45855172	0.54024559	0.57341043	0.54347061	0.62677686	0.56583873	0.60420065	0.67458418	0.64614187	0.66355571	0.71148783	0.70610186	0.64970809	0.65586648
Gabon	2.86177729	0.26489317	0.03054372	0.02652555	0.01252122	0.00975395	0.0072758	0.00864566	0.00577104						
Germany	372.288385	0.37413011	0.42596824	0.47649165	0.49755396	0.55604307	0.62658884	0.67390736	0.68868502	0.66529705	0.71156827	0.71410953	0.72907176	0.6606892	0.6781866
Ghana	4.05760419	0.20667459	0.1514209	0.0797567	0.07034117	0.0759877	0.07872961	0.10561356	0.12133805	0.08277417	0.07656727	0.07274941	0.08013301	0.06057271	0.06091007
Greece	108.247889	0.17455705	0.14300129	0.24820479	0.56016063	0.77858124	0.80144143	0.82698289	0.90148533	0.71659223	0.79386251	0.81483266	0.82500177	0.75366523	0.69908405
Guatemala	5.08819051	0.02554303	0.03125219	0.031369	0.02725772	0.02996228	0.03459691	0.04278382	0.0412642	0.046343	0.05240601	0.05494969	0.0550874	0.0367189	0.03645539
Haiti	0.04198996	0.00255066	0.00545588	0.00872078	0.003029	0.00306316	0.00226063	0.00187376	0.00161284	0.00135041	0.00097111	0.00106398	0.00100499	0.0278516	0.03450729
Honduras	0.9000846	0.00416264	0.00478953	0.00620528	0.00473452	0.00469518	0.00514896	0.00700832	0.00746901	0.0110309	0.01113633	0.0120906	0.01445123	0.00881082	0.00767856
Hungary	2.71467327	0.00259658	0.00333405	0.00329402	0.00271326	0.00272731	0.00291204	0.00342829	0.00253937	0.00243437	0.00308979	0.00310076	0.00368407	0.00256139	0.0028385
Iceland	57.5827243	0.04823905	0.04642678	0.03223185	0.02603668	0.03080058	0.01748091	0.0202374	0.01553677	0.01787001	0.01548743	0.01142692	0.02532817	0.01813436	0.01842029
India	2.99778187	0.06483824	0.05505516	0.04626399	0.03827252	0.0428116	0.04106599	0.03467286	0.03886146	0.06850133	0.08416232	0.09189961	0.09932249	0.07245809	0.06652544
Indonesia	4.02319998	0.03050945	0.03317979	0.03568747	0.03740596	0.04578933	0.0350704	0.0344127	0.03957955	0.03865195	0.03433002	0.03266716	0.03510996	0.03041947	0.02706052
Iraq					0.01044764	0.00792985	0.00597915	0.00499905	0.00327401	0.00462642	0.00523637	0.00473096	0.02266045	0.02103038	0.05247571
Ireland	12.6940844	0.00863572	0.01101777	0.01768707	0.02650916	0.10390137	0.13449143	0.15855592	0.16156678	0.09759099	0.12832561	0.17434583	0.18807964	0.14209995	0.13305058
Italy	379.940607	0.47162072	0.48575683	0.51990992	0.55344176	0.6131436	0.66133565	0.69838086	0.64895514	0.65192815	0.69911265	0.71045797	0.72203021	0.65156869	0.66594339
Japan	53.1130974	0.01692361	0.01795605	0.01524059	0.01275753	0.01490272	0.01746833	0.02107506	0.02075936	0.025441	0.03154796	0.02906715	0.03228367	0.02339157	0.02353534
Jordan	21.5591306	0.03527873	0.03412985	0.03195742	0.03305122	0.03860773	0.03726524	0.04832105	0.04001339	0.03674241	0.04226918	0.05189847	0.08392229	0.04355912	0.04659502
Kazakhstan	33.9199854	0.20299083	0.18643228	0.14629151	0.08662188	0.13939926	0.07195267	0.10567784	0.10117348	0.10625389	0.10762422	0.13815256	0.21794911	0.2253829	0.25423148
Kenya	0.00413632	0.00012306	0.00016044	0.00014076	0.00014412	0.00014257	0.00013156	0.00012424	0.00015105	0.00014125	0.00016264	0.00017948	0.00014566	0.00010952	9.1465E-05
Korea, Rep.	2.56351866	0.00118704	0.00125391	0.00120583	0.00099863	0.00111532	0.00111136	0.00145703	0.00198681	0.00186444	0.00223307	0.00873016	0.01378393	0.01169941	0.01116135
Kuwait	339.793543	0.06623349	0.08633217	0.12264481	0.11886756	0.12811351	0.11380498	0.11271936	0.1142743	0.11988048	0.14383903	0.1309378	0.12757754	0.0943415	0.08703338
Kyrgyz Republic	4.65540407	0.08019746	0.08975627	0.08683202	0.06446495	0.06960883	0.0646381	0.05888333	0.05898731	0.05703372	0.06788216	0.07012695	0.07912531	0.06245302	0.07800798
Laos	0.8681139	0.13243606	0.11450989	0.18984098	0.18687877	0.24187882	0.28899903	0.2474221	0.28307319	0.33776112	0.36320745	0.37089638	0.37279329	0.32235654	0.28200557
Latvia	28.8296826	0.05645903	0.06422897	0.06752398	0.05388134	0.05406717	0.0350437	0.03599437	0.04124892	0.03918443	0.04595859	0.05969862	0.05499706	0.03794159	0.07957611
Libya	236.952166	0.07951575	0.09972619	0.08968219	0.07307872	0.05664074	0.04723666	0.04630388	0.04174729	0.04846664	0.06122831	0.05193888	0.05006115	0.03773047	0.04830933
Lithuania	14.6105184	0.03082755	0.02644688	0.02252158	0.02264364	0.02498074	0.02046125	0.02014116	0.02520351	0.03070463	0.03983244	0.03490718	0.03648207	0.02790223	0.02583458
Luxembourg	47.8070135	0.16594133	0.14653205	0.10055807	0.0979853	0.13603403	0.17743759	0.30059743	0.15947984	0.09680829	0.11929003	0.10906114	0.12091955	0.09004286	0.10053981
Macedonia	15.1513416	0.06719204	0.08597353	0.03966726	0.08721102	0.0835317	0.07344053	0.08037318	0.08996464	0.10373294	0.13472395	0.12595937	0.12564656	0.09571746	0.08896014
Malawi	0.30969246	0.01722568	0.02652538	0.04204486	0.04206225	0.03985554	0.05749561	0.04708392	0.04384569	0.08525411	0.05529578	0.09029683	0.08758684	0.0360788	0.02505589
Malaysia	13.8493888	0.01083921	0.01187789	0.01101746	0.00771852	0.00851867	0.00897447	0.00956409	0.01104097	0.01315741	0.01543663	0.01341055	0.01393308	0.01045032	0.01196027
Malta	2.814244	0.00082906	0.0005518	0.00054371	0.00064088	0.00079582	0.00119447	0.00351167	0.01374188	0.01191485	0.00806632	0.02972247	0.02360618	0.02017813	0.0060361
Mauritania	1.16491576	0.07982639	0.05320523	0.15079149	0.12994009	0.08383812	0.03758723	0.04622703	0.05036366	0.05257865	0.05615131	0.03505004	0.01975562	0.01388087	0.02182763
Mauritius	14.265065	0.02000436	0.0169355	0.01605724	0.01654696	0.02307385	0.02996243	0.02807939	0.02977087	0.05907254	0.06751082	0.06938814	0.07085472	0.04313163	0.0780894
Mexico	0.67280129	0.00142676	0.0015197	0.00120384	0.00095018	0.00074978	0.00077062	0.00113452	0.00182303	0.00299939	0.00264568	0.03496671	0.03987663	0.02645736	0.02431722
Mongolia	9.72232596	0.24650398	0.18266025	0.03279653	0.06782662		0.18929769	0.19973114	0.14496545	0.02453964	0.03980511	0.07053202	0.04747308	0.06764116	0.06746094
Morocco	6.71626501	0.02254904	0.02338812	0.02088306	0.01862907	0.02194567	0.02164783	0.02388546	0.02710365	0.0327149	0.04158534	0.05314788	0.06782151	0.0448139	0.04164434
Mozambique	1.05944882	0.01892062	0.02690933	0.01089385	0.02446045	0.04429578	0.04976394	0.05208562	0.04986921	0.03750113	0.04666203	0.04737333	0.06471322	0.06292682	0.06558873
Myanmar	1.37774365	0.13776155	0.14438786	0.14928148	0.13103406	0.13346437	0.1063862	0.05933728	0.05184272	0.04615983	0.05433381	0.04860217	0.05288754	0.03185897	0.06249981
Nepal	1.76646999	0.03912108	0.04894709	0.04956884	0.0437682	0.04230667				0.01805643	0.02191214	0.0193575	0.02516613	0.02589197	0.03042296
Netherlands	505.195767	0.46534383	0.49530071	0.48292693	0.50679152	0.56054401	0.5480593	0.618624	0.59876468	0.54510005	0.59973103	0.59802179	0.59774059	0.51216173	0.55156575
Oman	35.1677366	0.03286141	6.6742E-05	7.1753E-05	7.524E-05	7.2741E-05	7.8346E-05	5.4101E-05	4.5055E-05	5.3468E-05	6.4744E-05	6.3942E-05	7.1408E-05	4.6667E-05	4.7503E-05
Pakistan	4.14240869	0.13705266	0.08157446	0.07402409	0.08575558	0.09690303	0.10365773	0.11102897	0.20276788	0.16815093	0.16862188	0.17911336	0.25181584	0.32612561	0.17472321
Paraguay	1.80796338	0.01335609	0.01867365	0.0148209					0.00644639	0.00597577	0.00715798	0.00652032	0.08775651	0.05402727	0.04547149
Peru	11.6494852	0.03432643	0.0393074	0.04541782	0.03855603	0.0403571	0.04063214	0.03345213	0.03103715	0.0364903	0.0354386	0.034895	0.02891569	0.02041825	0.02150176
Philippines	25.4367487	0.1407007	0.1833073	0.20070328	0.19206874	0.13794759	0.12792749	0.10461127	0.11479992	0.12267775	0.11172599	0.10427429	0.12305028	0.09008836	0.09509601
Poland	23.71574	0.03443358	0.03807967	0.04063274	0.03940155	0.0398726	0.04338198	0.04196351	0.04628234	0.04524879	0.04975451	0.05184547	0.05055942	0.03752147	0.03972914
Portugal	520.259938	0.35813981	0.36844599	0.54143178	0.5571685	0.66435478	0.79118801	0.89074268	0.89094236	0.84742964	0.82557403	0.9050732	0.9030805	0.84209005	0.75283397
Qatar	8.86926504	0.0040154	0.00416958	0.00270521	0.00534959	0.00215357	0.00225184	0.03412295	0.03472361	0.02308162	0.01798924	0.03634982	0.02001208	0.01142327	0.01113756
Romania	41.2598804	0.19250573	0.15928849	0.14915908	0.09189659	0.08004739	0.0708391	0.06954626	0.07292245	0.0817088	0.09754699	0.10626162	0.11878901	0.08225926	0.09312037
Russian Federation	23.1378391	0.10357747	0.08840103	0.06675736	0.04315893	0.03500642	0.02701231	0.02521158	0.03408374	0.05165196	0.07436309	0.08737662	0.09527332	0.0786541	0.12129578
Saudi Arabia	60.7471223	0.06735713	0.07100412	0.07815249	0.06869556	0.01498061	0.01276082	0.0123895	0.02000865	0.02681838	0.03176804	0.02855769	0.02564069	0.01694879	0.01681844
Serbia							0.02028537	0.02262992	0.03094021	0.03012401	0.04455113	0.04529631	0.05680243	0.04075376	0.05643
Singapore	279.091047	0.01478519	0.01683068	0.01748524	0.01571503	0.01779794	0.0187795	0.02055265	0.02006549	0.02319444	0.02489378	0.02572199	0.02563175	0.0177598	0.01888418
Slovak Republic	65.7002962	0.07010088	0.04208143	0.03877431	0.03316142	0.03741487	0.05370314	0.04961181	0.05213106	0.61620988	0.66632639	0.64710089	0.67510838	0.57178197	0.46891613
Slovenia	0.04467372	0.01528706	0.01178583	0.01178523	0.01195149	0.01021612	0.01446869	0.08025979	0.09354612	0.10389214	0.1343258	0.15823575	0.1783016	0.13323023	0.12103067
South Africa	35.410336	0.20736987	0.24467154	0.2034033	0.11722177	0.09917016	0.09910551	0.10118139	0.10234194	0.1102256	0.12881213	0.1262217	0.13203515	0.0974588	0.0988191
Spain	113.85167	0.13591789	0.14310917	0.26188767	0.37299078	0.4382434	0.44042239	0.39669928	0.38813916	0.35100699	0.39926799	0.296793	0.29781202	0.23536058	0.21657436
Sri Lanka	4.9169851	0.0520415	0.04351683	0.0295022	0.03309152	0.03124573	0.0373912	0.03947424	0.05650837	0.13776812	0.06749276	0.07289787	0.10255674	0.11848673	0.10900936
Suriname	148.852833	0.38063232	0.06213	0.07525543	0.06492359	0.11346321	0.09203368	0.08231402	0.06740182	0.09197317	0.1289551	0.13284563	0.12266866	0.05181436	0.08295434
Sweden	184.410661	0.10549192	0.10658314	0.11220354	0.10541837	0.11169062	0.1156248	0.12853021	0.12886936	0.0930222	0.11775443	0.12324239	0.12874042	0.07448715	0.07789801
Switzerland	2971.53064	0.37912956	0.34469192	0.31497391	0.25575723	0.36956877	0.40904302	0.40836992	0.39226438	0.27024953	0.17376231	0.15486324	0.10472953	0.07511128	0.07388344
Syrian Arab Republic	13.9308371	0.64564067	0.69374328	0.73383649	0.66619362	0.02404212	0.03115498	0.03922151	0.04059274	0.04932287	0.0565418				
Tajikistan	0.22870079	0.01829982		0.04862146	0.08458026	0.109544	0.14084861	0.52959618	0.36489075	0.31527826	0.19577661	0.44253464	0.52767565	0.30331433	0.65386891
Thailand	10.318354	0.02075392	0.02202576	0.02573065	0.02372478	0.02659778	0.02561478	0.02573524	0.02115433	0.02121275	0.02614459	0.04289471	0.04492805	0.03529296	0.03760051
Trinidad and Tobago	13.0148949	0.00872392	0.01019084	0.0103028	0.00839062	0.00629266	0.00587948	0.0075733	0.00561641	0.00723446	0.00894756	0.0090018	0.01038228	0.00697028	0.00622663
Tunisia	6.22515452	0.02944341	0.03156126	0.02993204	0.0236659	0.02456583	0.02003309	0.02260739	0.0209766	0.02099051	0.03123569	0.0426132	0.04136222	0.03477881	0.0350637
Turkey	16.2252892	0.05183615	0.04513282	0.043814	0.04382836	0.03647927	0.03750833	0.04068491	0.04406697	0.05417421	0.06103436	0.10933788	0.16143527	0.15357885	0.16100466
Ukraine	2.53153784	0.04324396	0.05760693	0.03784402	0.02343587	0.02063835	0.02302894	0.02148295	0.02354749	0.03561956	0.03597977	0.04339368	0.07726045	0.08024642	0.12157896
United Kingdom	73.0412949	0.06660167	0.06293395	0.07456757	0.07076326	0.08668674	0.0993512	0.10701537	0.13391615	0.13653036	0.14302275	0.13917045	0.14167658	0.10117782	0.09663501
United States	254.460326	0.55692598	0.56921138	0.59302067	0.6015534	0.71271666	0.75189231	0.78553596	0.77348095	0.70373874	0.75171903	0.74516881	0.75771964	0.70227237	0.72595709
Uruguay	89.3280833	0.00071371	0.00372928	0.00167956	0.00144934	0.00140408	0.00173205	0.00172063	0.00116123	0.00114832	0.00155296	0.00125497	0.00101068	0.00061007	0.00056515
Venezuela	114.763516	12264.3981	12106.512	20820.5607	23408.0516	29802.9405	36715.1252	33759.2205	43065.4607	34317.9556	29665.4618	27934.6622	29468.7894	20275.2186	21454.9069

1.2. Panel study: independent variables

Aid

Official development aid (%GDP)

Official development aid (% GDP)	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014
Afghanistan		16.67001171	31.79141043	34.82247438	43.65011295	45.14558364	41.71300904	51.41861559	47.6359567	49.71647698	40.44278057	37.86909885	31.97694879	25.0668976	23.76860751
Albania	8.501341417	6.412499276	6.764259271	5.917154633	4.019382016	3.786248469	3.501391913	2.806216008	2.818086019	3.013226585	3.091770411	2.943027085	2.855410111	2.07733879	2.106201056
Argentina	0.021821323	0.058719393	0.097264408	0.089943407	0.059314694	0.049222579	3.501391913	0.030642551	0.034032191	0.035221118	0.031414068	0.01847609	0.033341779	0.00642856	0.009463076
Australia							3.501391913								
Austria							3.501391913								
Bangladesh	2.131202762	1.878490217	1.582465198	2.23358611	2.085860433	1.820763736	1.611817964	1.785768291	2.098514072	1.118761293	1.127132661	1.076678559	1.48923211	1.625129659	1.31374313
Belarus						0.191685929	0.202933907	0.190409739	0.1853091	0.20421737	0.242774223	0.198040803	0.160203441	0.147080536	0.15786331
Belgium															
Bolivia	5.947181288	9.428064934	8.995904967	12.09650011	9.402634197	7.013727197	7.689451504	3.760664788	3.893431605	4.26894361	3.820441692	3.172796301	2.599545439	2.442649403	2.155265767
Brazil	0.038454988	0.044242511	0.044384342	0.038832766	0.025139523	0.022468828	0.00846625	0.023064598	0.028021473	0.022270714	0.020926538	0.032223405	0.05340315	0.047307435	0.037972845
Bulgaria															
Burundi	10.54605216	16.10800225	21.17877016	29.68341913	40.40965097	33.24792824	34.16850914	37.36913918	32.37845355	33.41979256	31.15053941	24.47402775	21.27950199	20.57328072	16.69654828
Cambodia	11.21678292	10.80899094	11.87225414	11.54309646	9.480752837	8.967618922	7.639547595	8.316262559	7.497631801	7.14448143	6.84197346	6.479673551	6.061570293	5.545042901	5.072034501
Canada															
Chad	9.603019644	11.18080732	11.89130094	11.0555548	8.925780048	6.873514428	4.680715129	4.945548051	5.084221288	6.295977574	4.757749983	3.865171547	3.936982175	3.71670118	2.942669074
Chile	0.065185028	0.085995173	-0.009980155	0.113336742	0.059763604	0.151798729	0.073003285	0.070500849	0.064240999	0.049332437	0.09286967	0.070695271	0.050368624	0.030262218	0.097494373
China	0.146155869	0.113439953	0.103841368	0.082514707	0.087712363	0.079268863	0.046314339	0.040939009	0.028480552	0.022620754	0.01106074	-0.008036867	-0.002113754	-0.006889733	-0.009023434
Colombia	0.190986052	0.400795738	0.464279292	0.878257677	0.459609965	0.442328112	0.630845995	0.364045655	0.416507826	0.467944548	0.244328318	0.318106837	0.215495952	0.234311236	0.334773542
Costa Rica	0.092715332	0.020706298	0.020027627	0.178155932	0.083914563	0.136898508	0.101046945	0.211777022	0.231222398	0.359140624	0.263643836	0.076624356	0.063254918	0.06853309	0.112330825
Cyprus															
Czech Republic															
Denmark															
Dominican Republic	0.244785199	0.449477935	0.570264839	0.345965659	0.418098895	0.236947715	0.159557879	0.295857156	0.337494865	0.257529467	0.339593053	0.404993966	0.446833749	0.249026836	0.268151436
Ecuador	0.870217567	0.764264358	0.818736285	0.587738158	0.460290188	0.585707193	0.423982271	0.436299331	0.379820222	0.33056833	0.220306335	0.210921472	0.170923388	0.160541424	0.164762698
Egypt	1.360350621	1.317470895	1.488095882	1.228220098	1.911258434	1.169948958	0.841577396	0.86489574	1.028475932	0.519594803	0.279295436	0.184268854	0.664519654	1.960492675	1.186051597
El Salvador	1.396930386	1.752417509	1.669133895	1.314450614	1.409806785	1.199566356	0.876156615	0.454027259	1.114395563	1.360204844	1.348507576	1.233748357	0.959370186	0.724099136	0.408282043
Fiji	1.710172076	1.590350427	1.839562408	2.211971175	2.402305982	2.166506129	1.871326106	1.528161186	1.31690266	2.333203849	2.492170112	2.059588781	2.754516766	2.220448763	2.220442869
Finland															
France															
Gabon	0.276279616	0.196823901	1.483144734	-0.188791038	0.609891443	0.583433141	0.348364282	0.501482345	0.4802045	0.728966433	0.852045149	0.442618841	0.445403991	0.548960401	0.645671936
Germany															
Ghana	12.4202318	12.38470013	11.41929072	13.19114395	16.34203769	10.87329493	6.095325923	4.723737299	4.6185515	6.122280438	5.363990104	4.705400642	4.519720141	2.8591279	3.00717653
Greece															
Guatemala	1.386701561	1.214527801	1.214266296	1.142617619	0.920264826	0.95118802	1.642287941	1.354777525	1.408202837	1.029828972	0.970806228	0.82275669	0.620755518	0.943961838	0.489806001
Haiti	5.243813824	4.73553872	4.503498515	7.216865778	8.474544729	9.963140052	12.22103723	12.17695289	14.14859018	17.12328399	46.25361248	22.3936785	16.00798744	13.58192315	12.26407617
Honduras	6.534165574	9.006422966	5.649200191	5.005105597	7.879483215	7.504685016	5.762541935	3.91740602	4.268170945	3.244269173	4.198393811	3.69425001	3.2814513	3.652096678	3.342361342
Hungary															
Iceland															
India	0.302604356	0.364313932	0.349511598	0.121141979	0.112033883	0.233618125	0.151546735	0.111136346	0.170922046	0.18853718	0.172783495	0.180973223	0.093116532	0.133962583	0.148476286
Indonesia	1.079565436	0.950801442	0.686959198	0.786438442	0.055192541	0.932776925	0.377741305	0.206140138	0.238764259	0.200908575	0.189103687	0.046305216	0.007736881	0.007847505	-0.044362803
Iraq					12.67886624	43.50965671	13.46135688	10.1889418	7.129084072	2.432318217	1.55474926	1.031910522	0.59384634	0.659769206	0.586289683
Ireland															
Italy															
Japan															
Jordan	6.473424482	4.928247086	5.830435324	12.79562306	5.174139962	5.491964753	3.698062401	3.570611167	3.279590613	3.060127616	3.64259196	3.408833658	3.788931058	4.210853658	7.616908828
Kazakhstan	1.110404389	0.727442835	0.80946942	0.997897971	0.678108448	0.435281892	0.248466238	0.230833031	0.296279149	0.287560004	0.164598843	0.121780929	0.073298506	0.042915422	0.046685493
Kenya	4.086651472	3.679633289	2.980310857	3.547864791	4.11144724	4.03898129	3.656120466	4.178536046	3.801637331	4.820528424	4.093247859	5.907309426	5.287508482	6.067957503	4.392602346
Korea															
Kuwait															
Kyrgyz Republic	16.67392785	12.80488516	11.99867933	10.77119006	12.37649749	11.27639507	11.16498814	7.492133654	7.242281959	6.940171564	8.551893182	9.448515557	7.310502703	7.804520635	8.749884253
Laos	16.9169236	14.40552371	16.41671782	15.77313904	11.89874961	11.1400722	11.1934161	9.843229759	9.571150258	7.362391658	6.192745521	4.901516906	4.285712936	3.746378488	3.740571181
Latvia															
Libya						0.050675732	0.067129156	0.028398514	0.084466285	0.0629525	0.010181387	1.844629751	0.108975576	0.197930619	0.503968251
Lithuania															
Luxembourg															
Macedonia	6.774538994	6.724973838	6.893698248	5.44598376	4.674692467	3.697900619	2.939085227	2.539628523	2.071544827	2.080577175	2.094741551	1.865560865	1.549262437	1.862722063	1.90070182
Malawi	26.25124997	24.42139981	11.00255526	16.40392432	14.7925302	15.86381734	18.25406203	17.37984706	17.45267968	12.61735328	14.8419289	10.1205241	19.8706121	21.14181522	15.82353583
Malaysia	0.056450234	0.034088379	0.094790186	0.105800642	0.252882045	0.02129552	0.152782171	0.106686892	0.069827545	0.070586672	-0.002486795	0.014029207	0.006049413	-0.036259835	0.006094131
Malta	0.50395018	0.038890862	0.234219278												
Mauritania	17.10448206	22.38081682	26.3323889	16.09415388	10.25620913	8.394673694	7.292299882	10.58417911	11.49700494	10.10016001	8.740099943	7.597793378	8.138935739	5.305405676	4.966857516
Mauritius	0.455770884	0.467689247	0.498899712	-0.260216159	0.514791417	0.548145978	0.270939192	0.82904743	1.073120475	1.716652814	1.230735887	1.607726479	1.509008174	1.199168657	0.357315573
Mexico	-0.006781019	0.013884644	0.019433001	0.017253651	0.018556487	0.023735883	0.026558918	0.011398217	0.013342639	0.020969223	0.043560074	0.082899128	0.034445428	0.045222351	0.063258332
Mongolia	19.30286559	16.89113966	15.06333381	15.91554646	12.94642757	8.942092086	6.102822145	5.540358357	4.548965912	8.475587541	4.584078238	3.675887036	3.936473473	3.626496288	2.821355816
Morocco	1.174423081	1.275219434	0.876246065	1.137563834	1.32183544	1.180362809	1.613681964	1.548057303	1.574418993	1.141683373	1.071979721	1.445145338	1.527944751	1.906298841	2.083810311
Mozambique	18.81158925	21.17248935	50.07259078	19.32153042	19.04824179	17.51574415	21.38603815	20.34138346	18.36456016	18.93408992	19.80099778	15.96044549	14.32470628	14.49036607	12.56628844
Myanmar	1.186690434	1.941894013	1.7574168	1.195104324	1.168771569	1.208999448	1.005150918	0.970887281	1.678397362	0.964769814	0.716594448	0.633624115	0.876592634	6.759386992	2.222308248
Nepal	7.007659161	6.450693786	5.674585867	7.347298671	5.874129453	5.189980305	5.790782722	5.913303985	5.50235385	6.563364107	5.050613056	4.662050984	4.050261438	4.497095664	4.345990211
Netherlands															
Oman	0.424811049	0.04433415	0.403366022	0.306219133	0.413202635	0.063715231	0.16271104	0.520663903	0.128385641	0.317793047	-0.039247845				
Pakistan	0.967566843	2.72756401	2.901620005	1.249790642	1.432135458	1.44651338	1.558843097	1.480274718	0.86502562	1.600790721	1.640224256	1.567412085	0.85492005	0.90226962	1.4002466
Paraguay	1.177672726	0.937487362	1.021105977	0.963195046	0.330436035	0.69587973	0.60136703	0.843795635	0.775813333	1.009496616	0.649946294	0.390763641	0.455926235	0.479019703	0.212718346
Peru	0.793821023	0.886436184	0.91731577	0.879131606	0.740402231	0.63876553	0.564140879	0.333666516	0.41748935	0.386337894	-0.216770648	0.376227625	0.213359626	0.189949554	0.170998681
Philippines	0.605607277	0.634726755	0.573539487	0.722753722	0.418082412	0.464568737	0.396003437	0.34849674	0.018725775	0.150747086	0.22501579	-0.068429855	-0.001118161	0.058151244	0.196428398
Poland															
Portugal															
Qatar															
Romania															
Russian Federation															
Saudi Arabia	0.011533193	0.007051767	0.008789616	0.006368086	0.007770802	0.007582109	0.00638239	-0.031032668							
Serbia	17.34353541	10.62623249	12.9904814	6.224529496	4.705562905	4.120815952	5.231408636	2.134470667	2.037158334	1.486231706	1.71508705	3.036932404	2.765353338	1.788037789	0.865233613
Singapore															
Slovak Republic															
Slovenia	0.298355531	0.599549811	0.225010016												
South Africa	0.367907757	0.363886979	0.448825821	0.376302068	0.281191142	0.269546638	0.271209239	0.274863454	0.400834391	0.369692227	0.28213545	0.343898001	0.276427618	0.362622707	0.315452714
Spain															
Sri Lanka	1.738434928	2.17410145	2.077592233	3.610815684	2.493200092	4.832247301	2.826866792	1.905610896	1.816146858	1.693498941	1.03299106	0.949064717	0.730248017	0.555766196	0.633942897
Suriname	4.116001162	4.269473912	1.377140685	1.109997526	1.961704957	2.616161994	2.488840409	5.148922325	2.860384019	4.036895081	2.434512496	2.160004446	0.842819843	0.614610552	0.258978866
Sweden															
Switzerland															
Syrian Arab Republic	0.866072393	0.756417076	0.304106324	0.564416046	0.437701047	0.254112052	0.061493597	0.212006321							
Tajikistan	15.05176538	16.07241556	14.49775516	10.1088178	12.4296893	11.30104277	8.867397107	6.461080673	5.626613729	8.267795504	6.214482756	4.197841251	4.045606492	3.475320519	3.121341358
Thailand	0.563824761	0.241292921	0.227821624	-0.644674803	0.029543452	-0.092623309	-0.10165133	-0.122439896	-0.220375938	-0.027876868	-0.006229812	-0.037062521	-0.034630979	0.007317001	0.09175122
Trinidad and Tobago	-0.020329961	-0.020879666	-0.100604168	-0.028236464	-0.015679608	-0.013002948	0.076786948	0.100611875	0.034869417	0.037669147	0.02054231				
Tunisia	1.085712618	1.731167123	0.979436994	1.142323355	1.114698548	1.202345052	1.331975695	0.886872334	0.896597814	1.193348634	1.310395356	2.119638076	2.36935112	1.617254826	2.010431344
Turkey	0.122155302	0.068250268	0.116917634	0.054736722	0.072368792	0.080502555	0.104164282	0.11884534	0.147671532	0.212916167	0.137132014	0.398445425	0.358795326	0.30233145	0.372242786
Ukraine						0.474535169	0.457064145	0.299412505	0.345946583	0.570374354	0.490022116	0.488147639	0.446760268	0.438783368	1.063943806
United Kingdom															
United States															
Uruguay	0.081688991	0.077865849	0.105305215	0.14192916	0.180673869	0.104489144	0.124537662	0.162280222	0.112256115	0.170330875	0.122531152	0.040856917	0.034908755	0.065609344	0.165587279
Venezuela	0.067868766	0.03859897	0.064956339	0.101877779	0.043177138	0.034310279	0.031615402	0.031581422	0.01916731	0.018167471	0.013735336	0.016136501	0.013682349	0.010529908	0.009043183

Remittances (%GDP)

Remittances (% GDP)	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014
Afghanistan									0.7	0.9	2.3	1.0	1.0	1.6	1.2
Albania	16.5	17.2	16.5	15.5	15.9	15.8	15.1	13.7	14.5	14.2	13.3	12.0	11.5	10.0	10.7
Argentina	0.0	0.1	0.2	0.2	0.2	0.2	15.1	0.2	0.2	0.2	0.2	0.1	0.1	0.1	0.1
Australia	0.1	0.1	0.1	0.1	0.1	0.1	15.1	0.2	0.1	0.1	0.2	0.2	0.2	0.2	0.2
Austria	0.9	0.9	0.9	1.0	0.8	0.7	15.1	0.8	0.7	0.8	0.8	0.8	0.7	0.8	0.7
Bangladesh	3.7	3.9	5.2	5.3	5.5	6.7	7.6	8.2	9.8	10.3	9.4	9.4	10.6	9.2	8.7
Belarus	0.9	0.5	0.6	0.9	1.0	0.7	0.7	0.6	1.0	1.0	1.0	1.4	1.6	1.6	1.6
Belgium	1.7	1.7	1.7	1.8	1.8	1.8	1.8	1.9	2.0	2.2	2.1	2.1	2.1	2.2	2.2
Bolivia	1.5	1.7	1.4	2.0	2.4	3.5	5.3	8.0	6.8	6.1	4.9	4.4	4.1	3.9	3.6
Brazil	0.2	0.3	0.4	0.4	0.4	0.3	0.3	0.2	0.2	0.2	0.1	0.1	0.1	0.1	0.1
Bulgaria	0.4	5.9	7.2	8.2	6.6	5.4	5.0	3.8	3.5	3.1	2.6	2.6	2.7	3.0	3.0
Burundi					0.0	0.0	0.0	0.0	0.2	1.6	1.7	1.9	1.9	1.8	1.8
Cambodia	2.8	2.8	2.9	2.8	2.8	2.6	2.5	2.2	1.8	1.4	1.4	1.3	1.2	1.2	2.3
Canada	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1
Chad															
Chile	0.0	0.0	0.0	0.0	0.0	0.0				0.0	0.0	0.0	0.0	0.0	0.0
China	0.1	0.1	0.2	0.3	0.3	0.1	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.3
Colombia	1.6	2.1	2.5	3.2	2.7	2.3	2.4	2.2	2.0	1.8	1.4	1.2	1.1	1.2	1.1
Costa Rica	0.9	1.2	1.5	1.9	1.7	2.1	2.3	2.3	2.0	1.7	1.4	1.2	1.2	1.2	1.2
Cyprus	0.4	0.7	0.2	0.2	0.4	0.6	0.5	0.6	3.5	2.3	3.4	2.7	2.2	1.6	1.1
Czech Republic	0.5	0.4	0.4	0.5	1.0	1.0	1.0	1.0	0.5	0.6	0.6	0.6	0.7	0.8	1.3
Denmark	0.4	0.4	0.4	0.4	0.4	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.4	0.4	0.4
Dominican Republic	7.6	7.7	8.0	10.7	11.0	7.5	8.0	7.7	7.5	7.1	7.2	7.3	7.0	7.2	7.3
Ecuador	7.2	5.8	5.0	5.0	5.0	5.9	6.3	6.6	5.0	4.4	3.7	3.4	2.8	2.6	2.4
Egypt	2.9	3.0	3.3	3.6	4.2	5.6	5.0	5.9	5.3	3.8	5.7	6.1	6.9	6.2	6.4
El Salvador	15.0	15.7	15.4	16.0	18.7	20.6	21.8	21.8	20.9	19.3	18.8	18.0	18.3	18.0	18.4
Fiji	2.6	4.7	5.4	5.3	6.3	6.8	6.6	5.4	4.2	6.0	5.6	4.2	4.8	4.9	4.9
Finland	0.4	0.4	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.4	0.3	0.3	0.4	0.3
France	0.7	0.7	0.7	0.7	0.6	0.6	0.7	0.7	0.7	0.7	0.8	0.8	0.8	0.9	0.9
Gabon	0.1	0.1	0.1	0.1	0.1	0.1		0.1	0.1	0.1	0.3	0.1	0.1		
Germany	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.3	0.3	0.4	0.4	0.4	0.4	0.4	0.4
Ghana	0.7	0.9	0.7	0.9	0.9	0.9	0.5	0.5	0.4	0.4	0.4	5.4	5.1	3.9	5.1
Greece	1.7	1.5	1.1	0.8	0.5	0.5	0.6	0.8	0.8	0.6	0.5	0.4	0.3	0.3	0.3
Guatemala	3.1	3.4	7.7	9.8	11.0	11.3	12.2	12.4	11.4	10.7	10.2	9.5	10.0	10.0	9.9
Haiti	14.6	17.3	19.5	27.4	26.3	22.9	22.3	20.8	20.9	20.9	22.3	20.6	20.4	21.1	22.5
Honduras	6.7	8.1	10.3	10.6	13.3	18.7	21.8	21.3	20.5	17.0	16.5	15.9	15.8	16.7	17.1
Hungary	0.5	0.5	0.3	0.3	1.6	1.7	1.8	1.7	1.6	1.3	1.6	2.0	2.8	3.4	3.4
Iceland	0.4	0.5	0.7	0.4	0.4	0.4	0.5	0.5	0.7	0.7	1.0	1.0	1.1	1.3	1.2
India	2.8	3.0	3.1	3.5	2.7	2.7	3.1	3.1	4.2	3.7	3.2	3.4	3.8	3.8	3.5
Indonesia	0.7	0.7	0.6	0.6	0.7	1.9	1.6	1.4	1.3	1.3	0.9	0.8	0.8	0.8	1.0
Iraq						1.4	0.6	0.0	0.1	0.1	0.1	0.1	0.1	0.3	0.3
Ireland	0.3	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.3	0.3	0.3	0.3	0.3
Italy	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.3	0.3	0.4	0.4	0.4	0.4	0.5
Japan	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1
Jordan	21.8	22.4	22.3	21.6	20.0	19.2	18.6	19.4	16.0	14.5	13.7	12.8	12.4	15.9	17.8
Kazakhstan	0.4	0.4	0.5	0.1	0.1	0.1	0.1	0.1	0.1	0.2	0.2	0.1	0.1	0.1	0.1
Kenya	4.2	0.4	0.4	0.4	2.3	2.3	2.2	2.0	1.9	1.7	1.7	2.2	2.4	2.4	2.3
Korea	0.8	0.8	0.8	0.9	0.8	0.6	0.5	0.5	0.7	0.7	0.5	0.5	0.5	0.5	0.5
Kuwait											0.0	0.0	0.0	0.0	0.0
Kyrgyz Republic	0.2	0.3	1.9	3.7	8.1	12.7	16.7	18.5	23.8	20.9	26.4	27.6	30.8	31.1	30.0
Laos	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.1	0.3	0.6	0.6	1.3	0.6	0.5	0.3
Latvia	3.2	3.3	1.2	1.3	1.5	2.2	2.2	1.8	5.4	6.1	5.3	5.3	5.3	5.3	4.9
Libya	0.0	0.0	0.0	0.0	0.0	0.0	0.0								
Lithuania	0.4	0.6	0.8	0.6	2.5	2.9	3.3	3.6	3.3	3.3	4.5	4.5	3.5	4.4	4.4
Luxembourg	2.7	2.7	3.5	3.5	3.4	3.2	3.2	2.9	2.9	3.2	3.1	3.0	3.0	3.0	2.8
Macedonia	2.1	2.0	2.6	3.5	3.7	3.6	3.9	4.1	4.1	4.1	4.1	4.1	4.0	3.5	3.2
Malawi	0.0	0.0	0.0	0.4	0.5	0.6	0.4	0.5	0.3	0.3	0.3	0.3	0.5	0.6	0.6
Malaysia	0.4	0.4	0.4	0.5	0.6	0.8	0.8	0.8	0.6	0.6	0.4	0.4	0.4	0.4	0.5
Malta	0.4	0.3	0.5	0.5	5.3	3.5	3.1	2.9	2.9	3.0	2.6	2.4	2.2	2.4	2.2
Mauritania															
Mauritius	3.9	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Mexico	1.1	1.3	1.4	2.3	2.5	2.6	2.7	2.6	2.3	2.5	2.1	2.0	1.9	1.8	1.9
Mongolia	0.1	2.1	4.9	5.0	10.2	7.0	4.5	4.2	4.0	4.4	3.7	2.4	2.6	2.0	2.1
Morocco	5.6	8.3	6.8	6.9	7.1	7.4	7.9	8.5	7.5	6.7	6.9	7.2	6.6	6.4	7.1
Mozambique	0.7	0.9	1.0	1.2	0.8	0.8	1.0	1.1	1.0	1.0	1.1	1.0	1.2	1.0	0.9
Myanmar	1.1	1.8	1.6	0.8	1.1	1.1	0.8	0.4	0.2	0.1	0.2	0.2	0.5	2.7	2.8
Nepal	2.0	2.4	11.2	12.2	11.3	14.9	16.1	16.8	21.7	23.2	21.6	22.3	25.4	29.0	29.4
Netherlands	0.1	0.1	0.1	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2
Oman	0.2	0.2	0.2	0.2	0.2	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.0	0.0
Pakistan	1.5	2.0	4.9	4.8	4.0	3.9	3.7	3.9	4.1	5.2	5.5	5.7	6.2	6.3	7.1
Paraguay	1.9	1.8	1.6	1.7	1.6	1.8	3.2	2.5	2.0	2.4	2.0	2.2	2.6	2.2	1.6
Peru	1.4	1.4	1.3	1.5	1.7	1.9	2.1	2.1	2.0	2.0	1.7	1.6	1.4	1.3	1.3
Philippines	8.5	11.5	12.0	12.2	12.6	13.3	12.7	11.0	10.8	11.9	10.8	10.3	9.8	9.8	10.1
Poland	0.9	0.8	0.8	1.1	1.9	2.1	2.5	2.4	2.0	1.9	1.6	1.5	1.4	1.4	1.4
Portugal	0.2	0.3	0.2	0.2	0.2	0.2	0.2	0.3	0.2	0.2	0.2	0.2	0.2	0.2	0.2
Qatar												0.3	0.4	0.3	0.2
Romania	0.3	0.3	0.3	0.2	0.2	1.0	0.9	0.9	0.8	0.4	0.4	0.4	0.4	1.8	1.7
Russian Federation	0.2	0.3	0.3	0.3	0.4	0.4	0.4	0.4	0.3	0.4	0.3	0.3	0.3	0.3	0.4
Saudi Arabia						0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Serbia								9.3	7.2	10.9	10.4	8.5	8.7	8.8	8.4
Singapore															
Slovak Republic	0.1	0.1	0.1	0.9	1.2	1.9	1.9	1.9	2.0	1.9	1.8	1.8	2.1	2.1	2.4
Slovenia	1.0	0.9	0.9	0.8	0.8	0.7	0.7	0.7	0.7	0.7	0.7	1.0	0.5	0.6	0.7
South Africa	0.2	0.2	0.2	0.2	0.2	0.2	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3
Spain	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.2	0.2	0.2
Sri Lanka	7.1	7.4	7.8	7.5	7.6	8.1	7.7	7.8	7.2	7.9	7.3	7.9	8.8	8.6	8.9
Suriname	0.1	0.0	1.4	1.8	0.6	0.2	0.1	0.1	0.1	0.1	0.1	0.1	0.2	0.1	0.2
Sweden	0.2	0.2	0.2	0.4	0.4	0.5	0.5	0.7	0.8	0.9	0.8	0.8	0.8	0.8	0.8
Switzerland	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.3
Syrian Arab Republic	0.9	0.8	0.6	4.1	3.4	2.9	2.4	2.6							
Tajikistan			6.4	9.4	12.1	20.2	36.0	45.5	49.3	35.1	35.8	41.7	42.2	43.5	36.6
Thailand	1.3	1.0	1.0	1.1	0.9	0.6	0.6	0.6	0.7	1.4	1.3	1.4	1.4	1.6	1.6
Trinidad and Tobago	0.5	0.5	0.9	0.8	0.7	0.6	0.5	0.5	0.3	0.6	0.4	0.6	0.5	0.5	0.5
Tunisia	3.7	4.2	4.6	4.6	4.6	4.3	4.4	4.4	4.4	4.5	4.7	4.4	5.0	5.0	4.9
Turkey	1.7	1.4	0.8	0.2	0.2	0.3	0.3	0.3	0.3	0.3	0.2	0.2	0.2	0.2	0.2
Ukraine	1.3	2.2	2.8	3.0	2.9	2.8	2.9	3.7	3.8	5.1	4.8	4.8	4.8	5.3	5.5
United Kingdom	0.3	0.3	0.3	0.3	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2
United States	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Uruguay		0.0	0.3	0.5	0.5	0.4	0.5	0.4	0.4	0.3	0.3	0.3	0.2	0.2	0.2
Venezuela	0.0	0.0	0.0	0.2	0.1	0.1	0.1	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Development assistance per capita (constant 2015 USD)

COUNTRY	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014
Afghanistan	20093756	20966463	21979923	23064851	24118979	25070798	25893450	26616792	27294031	28004331	28803167	29708599	30696958	31731688	32758020
Albania	3089027	3060173	3051010	3039616	3026939	3011487	2992547	2970017	2947314	2927519	2913021	2905195	2900401	2895092	2889104
Argentina	37057452	37471509	37889370	38309379	38728696	39145488	39558890	39970224	40382389	40799407	41223889	41656879	42096739	42539925	42981515
Armenia	3069588	3050655	3033897	3017806	3000612	2981259	2958500	2933056	2908220	2888584	2877311	2875581	2881922	2893509	2906220
Australia	19153000	19413000	19651400	19895400	20127400	20394800	20697900	20827600	21249200	21691700	22031750	22340024	22742475	23145901	23504138
Austria	8011566	8042293	8081957	8121423	8171966	8227829	8268641	8295487	8321496	8343323	8363404	8391643	8429991	8479823	8546356
Bangladesh	131581243	134107160	136600667	139019001	141307489	143431101	145368004	147139191	148805814	150454708	152149102	153911916	155727053	157571292	159405279
Belarus	9979610	9928549	9865548	9796749	9730146	9663915	9604924	9560953	9527985	9506765	9490583	9473172	9464495	9465997	9474511
Belgium	10251250	10286570	10332785	10376133	10421137	10478617	10547958	10625700	10709973	10796493	10895586	11047744	11128246	11182817	11209057
Bolivia	8339512	8496375	8653345	8810420	8967741	9125409	9283334	9441444	9599855	9758748	9918242	10078343	10239004	10400264	10562159
Bosnia and Herzegovina	3766706	3771284	3775807	3779247	3781287	3781530	3779468	3774000	3763599	3746561	3722084	3688865	3648200	3604999	3566002
Brazil	175287587	177750670	180151021	182482149	184738458	186917361	189012412	191026637	192979029	194895996	196796269	198686688	200560983	202408632	204213133
Bulgaria	8170172	8009142	7837161	7775327	7716860	7658972	7601022	7545338	7492561	7444443	7395599	7348328	7305888	7265115	7223938
Burundi	6400706	6555829	6741569	6953113	7182451	7423289	7675338	7939573	8212264	8489031	8766930	9043508	9319710	9600186	9891790
Cambodia	12152354	12402473	12634729	12853124	13063377	13270201	13474489	13676693	13880509	14090208	14308740	14537886	14776866	15022692	15270790
Canada	30769700	31081900	31362000	31676000	31995000	32312000	32570505	32887928	33245773	33628571	34005274	34342780	34750545	35152370	35535348
Chad	8342559	8663012	9001689	9353201	9710043	10067009	10421597	10775708	11133861	11502786	11887202	12288651	12705135	13133589	13569438
Chile	15262754	15444969	15623635	15799542	15973778	16147064	16319792	16491687	16661942	16829442	16993354	17153357	17309746	17462982	17613798
China	1262645000	1271850000	1280400000	1288400000	1296075000	1303720000	1311020000	1317885000	1324655000	1331260000	1337705000	1344130000	1350695000	1357380000	1364270000
Colombia	40403958	40988909	41572491	42152151	42724163	43285634	43835722	44374572	44901544	45416181	45918097	46406646	46881475	47342981	47791911
Congo	47076387	48394338	49835756	51390033	53034217	54751476	56543011	58417562	60373608	62409435	64523263	66713597	68978682	71316033	73722860
Costa Rica	3925443	3996798	4063204	4125971	4187038	4247841	4308794	4369469	4429508	4488263	4545280	4600474	4654122	4706401	4757575
Cyprus	943286	960282	976966	993563	1010410	1027658	1045509	1063712	1081563	1098076	1112607	1124835	1135062	1143896	1152309
Czech Republic	10255063	10216605	10196916	10193998	10197101	10211216	10238905	10298828	10384603	10443936	10474410	10496088	10510785	10514272	10525347
Denmark	5339616	5358783	5375931	5390574	5404523	5419432	5437272	5461438	5493621	5523095	5547683	5570572	5591572	5614932	5643475
Dominican Republic	8562622	8697126	8832285	8967760	9102998	9237566	9371338	9504353	9636520	9767758	9897985	10027095	10154950	10281296	10405844
Ecuador	12628596	12852755	13072060	13289601	13509647	13735233	13967480	14205453	14447562	14691275	14934690	15177355	15419666	15661547	15903112
Egypt	69905988	71226940	72590118	73981942	75381899	76778149	78159048	79537253	80953881	82465022	84107606	85897561	87813257	89807433	91812566
El Salvador	5867626	5905962	5940303	5971535	6000775	6028961	6056478	6083475	6110301	6137276	6164626	6192560	6221246	6250777	6281189
Eritrea	3392801	3497124	3614639	3738265	3858623	3969007	4066648	4153332	4232636	4310334	4390840	4474690	..	..	..
Fiji	811223	814218	815691	816628	818354	821817	827411	834812	843340	851967	859950	867086	873596	879715	885806
Finland	5176209	5188008	5200598	5213014	5228172	5246096	5266268	5288720	5313399	5338871	5363352	5388272	5413971	5438972	5461512
France	60912500	61357430	61805267	62244886	62704895	63179351	63621381	64016227	64374989	64707044	65027507	65342775	65659789	65998660	66316092
Gabon	1231122	1262259	1294409	1328146	1364205	1403126	1444844	1489193	1536411	1586754	1640210	1697101	1756817	1817271	1875713
Germany	82211508	82349925	82488495	82534176	82516260	82469422	82376451	82266372	82110097	81902307	81776930	80274983	80425823	80645605	80982500
Ghana	18938762	19421605	19924522	20446782	20986536	21542009	22113425	22700212	23298640	23903831	24512104	25121796	25733049	26346251	26962563
Greece	10805808	10862132	10902022	10928070	10955141	10987314	11020362	11048473	11077841	11107017	11121341	11104899	11045011	10965211	10892413
Guatemala	11650743	11924946	12208848	12500478	12796925	13096028	13397008	13700286	14006366	14316208	14630417	14948919	15271056	15596214	15923559
Haiti	8549200	8692567	8834733	8976552	9119178	9263404	9409457	9556889	9705029	9852870	9999617	10145054	10289210	10431776	10572466
Honduras	6524283	6693061	6863157	7033821	7204153	7373430	7541406	7707972	7872658	8035021	8194778	8351600	8505646	8657785	8809216
Hong Kong	6665000	6714300	6744100	6730800	6783500	6813200	6857100	6916300	6957800	6972800	7024200	7071600	7150100	7178900	7229500
Hungary	10210971	10187576	10158608	10129552	10107146	10087065	10071370	10055780	10038188	10022650	10000023	9971727	9920362	9893082	9866468
Iceland	281205	284968	287523	289521	292074	296734	303782	311566	317414	318499	318041	319014	320716	323764	327386
India	1053050912	1071477855	1089807112	1108027848	1126135777	1144118674	1161977719	1179681239	1197146906	1214270132	1230980691	1247236029	1263065852	1278562207	1293859294
Indonesia	211540429	214506502	217508059	220545214	223614649	226712730	229838202	232989141	236159276	239340478	242524123	245707511	248883232	252032263	255131116
Iraq	23565413	24251649	24939299	25627626	26316609	27008426	27697912	28390433	29111417	29894652	30762701	31727053	32776571	33883145	35006080
Ireland	3805174	3866243	3931947	3996521	4070262	4159914	4273591	4398942	4489544	4535375	4560155	4580084	4599533	4623816	4657740
Italy	56942108	56974100	57059007	57313203	57685327	57969484	58143979	58438310	58826731	59095365	59277417	59379449	59539717	60233948	60789140
Japan	126843000	127149000	127445000	127718000	127761000	127773000	127854000	128001000	128063000	128047000	128070000	127833000	127629000	127445000	127276000
Jordan	5103130	5193482	5287488	5396774	5535595	5714111	5934232	6193191	6489822	6821116	7182390	7574943	7992573	8413464	8809306
Kazakhstan	14883626	14858335	14858948	14909018	15012985	15147029	15308084	15484192	15674000	16092822	16321872	16557201	16792089	17035550	17288285
Kenya	31450483	32321482	33214009	34130852	35074931	36048288	37052050	38085909	39148416	40237204	41350152	42486839	43646629	44826849	46024250
Korea	47008111	47370164	47644736	47892330	48082519	48184561	48438292	48683638	49054708	49307835	49554112	49936638	50199853	50428893	50746659
Kuwait	2050741	2109355	2143833	2169118	2207939	2276623	2377258	2503410	2652340	2818939	2998083	3191051	3395556	3598385	3782450
Kyrgyz Republic	4898400	4945100	4990700	5043300	5104700	5162600	5218400	5268400	5318700	5383300	5447900	5514600	5607200	5719600	5835500
Laos	5329304	5414568	5497273	5579656	5664605	5754026	5849356	5949787	6052190	6152036	6246274	6333487	6415169	6494557	6576397
Latvia	2367550	2337170	2310173	2287955	2263122	2238799	2218357	2200325	2177322	2141669	2097555	2059709	2034319	2012647	1993782
Libya	5355751	5440566	5527515	5615952	5704759	5792688	5881435	5970362	6053078	6121053	6169140	6193501	6198258	6195970	6204108
Lithuania	3499536	3470818	3443067	3415213	3377075	3322528	3269909	3231294	3198231	3162916	3097282	3028115	2987773	2957689	2932367
Luxembourg	436300	441525	446175	451630	458095	465158	472637	479993	488650	497783	506953	518347	530946	543360	556319
Macedonia	2034819	2042842	2048928	2053426	2057047	2060272	2063145	2065458	2067378	2069093	2070739	2072383	2074036	2075739	2077495
Malawi	11376172	11695863	12013711	12336687	12676038	13039711	13429262	13840969	14271234	14714602	15167095	15627618	16097305	16577147	17068838
Malaysia	23185608	23698907	24198811	24688703	25174109	25659393	26143566	26625845	27111069	27605383	28112289	28635128	29170456	29706724	30228017
Malta	390087	393028	395969	398582	401268	403834	405308	406724	409379	412477	414508	416268	420028	425967	434558
Mauritania	2709359	2790729	2873228	2957117	3042823	3130720	3220653	3312665	3407541	3506288	3609543	3717672	3830239	3946170	4063920
Mauritius	1186873	1196287	1204621	1213370	1221003	1228254	1233996	1239630	1244121	1247429	1250400	1252404	1255882	1258653	1260934
Mexico	101719673	103067068	104355608	105640453	106995583	108472228	110092378	111836346	113661809	115505228	117318941	119090017	120828307	122535969	124221600
Mongolia	2397436	2419776	2443659	2469286	2496832	2526446	2558012	2591670	2628131	2668289	2712650	2761516	2814226	2869107	2923896
Morocco	28849621	29181832	29512368	29843937	30179285	30521070	30869346	31225881	31596855	31989897	32409639	32858823	33333789	33824769	34318082
Mozambique	18067687	18588758	19139658	19716598	20312705	20923070	21547463	22188387	22846758	23524063	24221405	24939005	25676606	26434372	27212382
Myanmar	46095462	46627994	47140220	47624894	48073707	48482614	48846474	49171586	49479752	49800690	50155896	50553031	50986514	51448196	51924182
Nepal	23740911	24161777	24566342	24950623	25309449	25640287	25940618	26214847	26475859	26741103	27023137	27327147	27649925	27985310	28323241
Netherlands	15925513	16046180	16148929	16225302	16281779	16319868	16346101	16381696	16445593	16530388	16615394	16693074	16754962	16804432	16865008
Netherlands Antilles															
Nicaragua	5026796	5100750	5171734	5240879	5309703	5379328	5450211	5522106	5594506	5666581	5737723	5807820	5877108	5945747	6013997
Norway	4490967	4513751	4538159	4564855	4591910	4623291	4660677	4709153	4768212	4828726	4889252	4953088	5018573	5079623	5137232
Oman	2267991	2294787	2334285	2385255	2444751	2511269	2582991	2662762	2759014	2882942	3041460	3237268	3464644	3711481	3960925
Pakistan	138523285	141601437	144654143	147703401	150780300	153909667	157093993	160332974	163644603	167049580	170560182	174184265	177911533	181712595	185546257
Paraguay	5302700	5406624	5508611	5607950	5703740	5795494	5882796	5966159	6047117	6127837	6209877	6293783	6379219	6465740	6552584
Peru	25914879	26261363	26601467	26937738	27273194	27610410	27949944	28292724	28641980	29001507	29373646	29759989	30158966	30565716	30973354
Philippines	77991569	79665315	81352060	83031954	84678493	86274237	87809419	89293490	90751864	92220879	93726624	95277940	96866642	98481032	100102249
Poland	38258629	38248076	38230364	38204570	38182222	38165445	38141267	38120560	38125759	38151603	38042794	38063255	38063164	38040196	38011735
Portugal	10289898	10362722	10419631	10458821	10483861	10503330	10522288	10542964	10558177	10568247	10573100	10557560	10514844	10457295	10401062
Qatar	592267	616886	645659	688586	758855	864863	1010382	1189633	1389342	1590780	1779676	1952054	2109568	2250473	2374419
Romania	22442971	22131970	21730496	21574326	21451748	21319685	21193760	20882982	20537875	20367487	20246871	20147528	20058035	19983693	19908979
Russian Federation	146596557	145976083	145306046	144648257	144067054	143518523	143049528	142805088	142742350	142785342	142849449	142960868	143201676	143506911	143819666
Saudi Arabia	20764312	21303592	21906308	22556425	23228890	23905654	24578301	25252569	25940770	26661492	27425676	28238020	29086357	29944476	30776722
Serbia	7516346	7503433	7496522	7480591	7463157	7440769	7411569	7381579	7350222	7320807	7291436	7234099	7199077	7164132	7130576
Singapore	4027887	4138012	4175950	4114826	4166664	4265762	4401365	4588599	4839396	4987573	5076732	5183688	5312437	5399162	5469724
Slovak Republic	5388720	5378867	5376912	5373374	5372280	5372807	5373054	5374622	5379233	5386406	5391428	5398384	5407579	5413393	5418649
Slovenia	1988925	1992060	1994530	1995733	1997012	2000474	2006868	2018122	2021316	2039669	2048583	2052843	2057159	2059953	2061980
South Africa	45728315	46385006	47026173	47648727	48247395	48820586	49364582	49887181	50412129	50970818	51584663	52263516	52998213	53767396	54539571
Spain	40567864	40850412	41431558	42187645	42921895	43653155	44397319	45226803	45954106	46362946	46576897	46742697	46773055	46620045	46480882
Sri Lanka	18781938	18913054	19059300	19215307	19372538	19524558	19670151	19810789	19945832	20075086	20198353	20315017	20425000	20585000	20771000
Suriname	472390	477740	483044	488332	493630	498946	504307	509705	515148	520619	526103	531589	537077	542540	547928
Sweden	8872109	8895960	8924958	8958229	8993531	9029572	9080505	9148092	9219637	9298515	9378126	9449213	9519374	9600379	9696110
Switzerland	7184250	7229854	7284753	7339001	7389625	7437115	7483934	7551117	7647675	7743831	7824909	7912398	7996861	8089346	8188649
Syrian Arab Republic	16410848	16766899	17087901	17415266	17806638	18294611	18914977	19632806	20325443	20824893	21018834	20863993	20420701	19809141	19203090
Taiwan															
Tajikistan	6216205	6327125	6447688	6576877	6712841	6854176	7000557	7152385	7309728	7472819	7641630	7815949	7995062	8177809	8362745
Thailand	62958021	63543322	64073164	64554952	65002231	65425470	65824164	66195615	66545760	66881867	67208808	67530130	67843979	68143065	68416772
Trinidad and Tobago	1267984	1272380	1277837	1284052	1290535	1296934	1303144	1309260	1315372	1321618	1328100	1334788	1341588	1348248	1354493
Tunisia	9699197	9785701	9864326	9939678	10017601	10102482	10196136	10298087	10407336	10521834	10639931	10761467	10886668	11014558	11143908
Turkey	63240121	64191474	65143054	66085803	67007855	67903406	68763405	69597281	70440032	71339185	72326914	73409455	74569867	75787333	77030628
Ukraine	49175848	48683865	48202500	47812950	47451600	47105150	46787750	46509350	46258200	46053300	45870700	45706100	45593300	45489600	45271947
United Arab Emirates	3154925	3326032	3507232	3741932	4087931	4579562	5242032	6044067	6894278	7666393	8270684	8672475	8900453	9006263	9070867
United Kingdom	58892514	59119673	59370479	59647577	59987905	60401206	60846820	61322463	61806995	62276270	62766365	63258918	63700300	64128226	64613160
United States	282162411	284968955	287625193	290107933	292805298	295516599	298379912	301231207	304093966	306771529	309338421	311644280	313993272	316234505	318622525
Uruguay	3321245	3327103	3327773	3325637	3324096	3325612	3331043	3339741	3350824	3362755	3374415	3385624	3396777	3408005	3419546
Venezuela	24488340	24948476	25408700	25868523	26327225	26784161	27239168	27691965	28141701	28587323	29028033	29463291	29893080	30317848	30738378

Credit

Private credit to GDP

Private credit to GDP	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014
Afghanistan							4.78431021	6.77046095	9.31347878	10.5257795	11.5168509	4.92457271	4.33508142	4.29655218	3.91831288
Albania	4.74249173	5.98935209	6.41917479	7.54746675	9.54945981	15.2636296	22.1732604	29.9638408	35.4401443	38.2139696	39.0837426	41.1535258	40.8038218	39.7870907	39.2610633
Argentina	23.89473362	20.8335747	15.3318584	10.7627059	9.6825182	10.6534929	22.1732604	13.0985413	12.3139467	12.4162075	12.6901062	14.0087151	15.212815	15.729092	13.8237692
Australia	87.77558753	88.6895636	91.5205351	99.4417871	103.073659	108.914427	22.1732604	120.942478	122.116324	122.813066	125.701617	122.542709	121.499098	124.979599	128.728594
Austria		89.7133619	88.5215256	87.8063659	87.7658457	94.3241058	22.1732604	92.9198839	95.8129664	97.7395747	98.5283239	96.0610993	94.223799	92.5577521	87.5775252
Bangladesh	21.77938901	24.1795927	26.208125	26.0386277	27.9134033	29.3438305	31.1657017	32.0428331	34.0421917	36.1910376	40.9613226	42.4702412	43.0006694	41.7947548	43.7361239
Belarus	8.868479211	0.00082292	0.00090779	0.00117459	13.9534884	15.8987999	20.1850739	24.8038771	28.6341929	37.1511838	42.8113733	37.9586184	21.7775564	22.9262025	23.6326621
Belgium		65.9366624	63.7110997	62.2131253	61.4510758	63.3030993	65.5291814	68.2267107	62.3465858	58.2904292	56.4964989	54.9621571	54.5514698	56.48573	58.3164858
Bolivia	58.72180281	53.5565996	51.0016773	47.8805195	42.6507014	45.025463	37.8000931	36.9684282	34.6926246	37.0182158	40.342284	40.7930963	44.1369058	46.6796571	50.3224202
Brazil	31.14098578	29.004038	29.6451419	27.6856699	29.3727703	31.8397842	35.4251664	40.6909381	45.7822558	47.4942899	52.7646576	58.0784911	62.5192932	64.2305738	66.0285104
Bulgaria		14.4478911	18.923094	26.0954625	33.3999109	39.3701185	42.7610012	58.4865908	67.004133	69.1433414	68.3077464	65.5758615	66.2663395	66.2571912	59.5901084
Burundi	17.08001445	16.3028323	20.3102627	20.1327262	17.3507477	14.5417908	15.8332977	14.7758435	13.664624	14.9807148	18.2482762	20.3235655	18.9066006	17.3971957	16.745819
Cambodia	6.338491854	5.98794323	6.31035106	7.21124235	9.02489132	8.97621117	11.9923015	18.2065095	23.4592139	24.5936936	27.5578668	28.2532183	38.73996	52.0145155	62.6626663
Canada	93.43538526	173.231913	167.856145	162.06957	164.874047	172.745863	188.753647	123.857726	124.406867						
Chad	3.479363697	4.33848605	4.21236731	4.19489744	3.13376266	2.54174174	2.21531153	2.39770685	3.06222409	3.9310258	4.23672074	4.84850222	5.81733139	6.08903511	7.80152879
Chile	63.69833426	73.6347577	74.9410659	76.698334	76.6485172	77.224278	77.6349316	83.5715312	100.220498	102.228534	98.9814532	101.293629	104.284855	105.712859	108.559762
China	111.1229709	110.044591	117.498699	125.671433	118.636103	111.842925	109.158387	105.732724	101.917072	124.20714	126.300288	122.753688	128.496177	133.804493	140.147397
Colombia	20.94747439	24.2494307	25.2895951	24.8795068	27.2771087	29.2671204	33.362385	37.638849	37.7213639	39.9646718	43.7030055	44.7185469	48.9231976	49.9951653	52.6636924
Costa Rica	25.61265457	28.5865474	30.7221487	31.9095082	32.1333554	35.9156563	37.9052472	43.8000966	49.3981623	47.6678652	44.5628086	46.3974569	48.0286779	50.740881	54.4224862
Cyprus		142.104059	146.944815	146.896662	146.4774	154.416458	160.294642	179.864704	212.248764	226.379629	236.213373	244.101951	249.290651	253.262038	250.069579
Czech Republic		37.2670267	23.7473729	24.447246	25.8202599	29.4092279	34.0149932	38.8775915	43.4283844	45.250049	46.686279	48.6651272	49.7614727	51.1597002	49.8233394
Denmark		138.830033	141.603068	140.095396	145.64738	157.543834	169.0445	184.492465	191.188529	201.258664	193.039694	187.241006	182.096272	177.015376	173.327159
Dominican Republic	28.61131724	31.7731123	32.7362919	36.8786611	23.6407583	19.6494366	18.6926214	20.7082666	20.7266796	21.5497953	22.710135	22.905218	22.4928774	23.3897511	25.6255012
Ecuador	26.04025275	23.9672085	17.9975999	16.6882538	19.1541182	20.6773374	21.1388631	22.0794762	22.5686453	22.2347131	24.5629504	25.3407821	26.1392618	26.5319555	27.1601067
Egypt	51.95327845	54.9311402	54.6553972	53.8976287	54.0429143	51.1654341	49.2909797	45.5152216	42.7975138	36.0927134	33.0722952	31.1549233	27.3884497	26.2224395	25.6066805
El Salvador	50.3547236	45.9128729	45.5604582	47.4286524	48.1551897	49.9239143	50.2764283	51.5342943	51.2323078	49.7268351	47.4582053	45.3498966	44.7660574	47.1255614	48.9126608
Fiji	31.96550097	35.6569678	55.3056772	54.6185136	60.90537	68.7068356	78.5099958	78.2462149	85.9799576	89.6249133	83.4770863	75.419122	76.8012556	74.8887465	78.6455721
Finland		52.7187271	55.4928281	60.3421544	63.8389167	69.372274	73.5189498	76.4770827	80.3294599	86.6452336	88.626403	89.8912475	92.3450772	93.3863813	93.5505222
France		76.979403	76.0706362	75.5721282	76.6170448	80.1488755	84.2600523	88.8146454	92.5250705	95.0680688	95.8849069	96.8263222	96.5546313	96.0201947	94.0892609
Gabon	8.696552298	12.5213236	12.3109536	11.5183479	9.27094651	8.46361766	9.55302311	9.9522291	8.66117231	10.091113	8.20996977	9.52765219	11.3020818	15.0128761	14.5417932
Germany		112.040338	110.867342	109.519116	106.061736	104.874091	101.721926	96.5999133	96.4273502	98.1856943	87.9541949	84.5980201	83.4136013	81.6658175	79.1714834
Ghana	13.97149132	11.8843913	12.1495373	12.4930488	13.1724894	15.5440688	11.0935881	14.4884302	15.8819996	15.6580614	15.2896954	15.0501364	15.6447644	17.071083	19.9070386
Greece		50.0813932	53.3415964	57.1532686	62.2912459	72.0052878	76.2773358	84.540426	89.2899094	88.0180691	111.595976	117.155155	116.814558	118.105701	116.189461
Guatemala	19.78616393	22.4044498	21.2168202	26.2396127	26.1997008	25.3613286	28.3642036	28.1832489	27.3126868	25.3416286	23.8304299	23.5723436	31.6648137	32.6052145	32.9999335
Haiti	15.54047435	14.6894516	17.563747	16.5745837	14.2497697	14.4549836	13.6225399	12.6596795	13.8472528	14.4754827	13.9651351	14.7582273	18.8356812	18.9944547	19.7234481
Honduras	34.1141742	36.2761126	35.6985405	36.290686	37.2042218	38.25666	44.1361625	51.646904	51.3426063	50.3061949	47.5521745	46.9401995	50.8972582	54.2952148	54.5901938
Hungary		32.5996894	34.3035245	36.4525464	38.9299166	43.2785923	47.4058545	53.3016918	59.446638	60.0007624	60.7706424	58.833411	50.6586278	46.2435944	42.9434406
Iceland	94.56188887	97.4628993	101.769465	126.398628	158.980779	241.882932	312.026935	250.456039	197.367694	175.389524	164.866682	140.913753	121.624721	111.150784	97.3043022
India	28.72269657	29.0063445	32.7432667	32.0538468	36.6811102	40.6366547	44.5731706	46.2212759	50.0580208	48.7767856	51.1351494	51.2892331	51.8885076	52.3857095	51.8821874
Indonesia	19.90854065	20.2905271	21.2766955	22.9497428	26.3925255	26.4278532	24.606034	25.4559902	26.5534798	27.6587105	27.2530411	30.0821994	33.4341714	36.0581396	36.4235452
Iraq					1.26692714	1.55617717	2.26399132	2.47580446	2.68222036	3.77873015	5.39309563	5.41445204	5.93351633	6.36568604	6.65061294
Ireland		71.8543641	75.4308121	85.7309057	104.978008	124.727082	144.509014	157.993028	165.903469	168.677971	133.165457	115.529765	111.30482	103.887292	80.8076976
Italy		60.5936959	62.2681505	65.5205084	67.9129613	71.0365769	75.9780568	82.0686741	83.9732456	87.8085736	93.4432814	94.709016	94.4037712	91.3039899	88.9160078
Japan	212.2687989	183.181518	180.846348	180.487648	173.537014	170.725709	168.195485	160.832574	160.397598	166.947552	159.892829	159.616273	159.857517	162.308458	162.676217
Jordan	72.09051605	75.7076303	72.74006	70.8020026	74.7009292	88.0942252	91.7689152	91.6312548	80.8821925	75.528711	73.164992	73.5291482	72.8957865	72.3339693	70.216447
Kazakhstan	11.1927898	15.9762061	18.6186019	21.9375954	26.5933318	35.6856119	47.7839349	58.9414877	49.6474232	50.269921	39.2959169	35.144033	35.8835407	34.8667123	33.5266421
Kenya	25.75838277	25.2226867	25.8546018	25.1556752	27.287516	26.2768755	22.888311	23.0449643	25.3806117	25.02161	27.228123	30.5715438	29.5819595	31.7130516	34.1337123
Korea, Rep.	73.60331154	106.057806	116.022397	114.740266	109.775838	114.818779	127.221308	134.879956	148.34047	144.526578	135.927776	138.133293	136.692999	134.907795	138.358171
Kuwait	45.39066551	56.62525	58.3370664	59.4654027	56.3635782	50.9330988	49.9532949	59.5786563	57.2646391	79.119145	74.6393916	60.8062482	55.7433757	59.7519624	67.64079
Kyrgyz Republic	4.161475572	3.82901143	4.1783051	4.78397904	7.07664893	7.94670493	10.5575506	6.35105434	13.7738525	13.7282828	13.6444808	11.4882726	13.3711059	15.6624945	20.0519634
Laos	8.931729258	9.58686265	8.51205452	6.91911765	6.71332919	7.35478314	5.87385055	6.54326012	9.56628324	17.2418186	20.9192616				
Latvia											95.4683555	78.0484979	64.8051302	58.1350749	51.3545444
Libya	20.46729926	19.6148256	17.2066738	12.7840571	10.3399986	7.38438933	6.5684645	6.20099477	7.26293083	10.7848771	9.33532511	19.6863899	10.5544046	15.8021609	26.939446
Lithuania											58.6385032	49.5662437	46.6048281	43.115425	40.8304677
Luxembourg		78.8111257	67.2689148	69.158184	66.5962044	71.865643	75.534382	86.374328	106.143473	106.637951	90.8859845	86.4364786	88.1572276	91.49764	89.6166216
Macedonia	16.95462626	16.3043349	16.6694382	17.5560303	20.883876	23.3320473	28.0142755	34.9610742	42.1273109	43.4603254	44.224964	44.8522826	47.1739732	46.6633613	49.448278
Malawi	5.603747787	5.20793504	2.74688812	3.13700964	3.67872444	4.04270001	5.10249187	5.47820427	9.11346314	10.8747796	13.8296193	13.9323857	14.5742627	12.4530417	11.4036367
Malaysia	134.9998539	129.101376	121.827663	118.974149	111.937369	106.524432	103.664004	101.580075	96.7483792	111.606911	107.122753	108.425937	114.12453	119.899694	120.578651
Malta						97.7233037	106.781345	109.030829	116.434644	124.518783	119.579514	120.244598	113.328078	106.254041	99.4377059
Mauritania						24.7393247	18.8423072	21.1036075	24.8092565	25.7180886	23.7148395	21.7268869	23.1061836		
Mauritius	57.49743335	57.8188477	58.591157	73.2476549	73.0525847	75.2763982	68.6878766	71.7467362	81.7980556	80.0770126	85.3551208	89.3054369	98.847545	106.306481	98.7708492
Mexico	15.03995576	12.8777206	14.8862739	15.368284	14.7765825	16.0133224	19.196343	21.4036536	20.6731407	22.6538122	23.3288218	24.5543391	26.0480964	29.0174617	29.2583204
Mongolia	6.932842914	9.14314263	14.4104051	22.3056286	25.5529272	27.550665	30.1190332	41.5764911	39.9020112	40.299728	34.1912658	43.4934673	43.721761	59.8748579	59.2943187
Morocco	48.59200377	42.5951429	41.5147122	40.5810611	40.6913983	44.034896	46.494744	55.5544935	60.6939535	63.2984786	66.8629474	70.4520564	71.6380252	68.2051127	68.4313266
Mozambique	14.38426036	10.7348094	10.7586125	9.5071729	7.89442334	10.0859105	11.3188451	11.5910395	15.7501625	21.9739357	24.3305528	23.2904986	24.5222275	28.1943742	31.9991394
Myanmar	9.517409286	11.0021716	10.3448471	4.09568121	4.74016289	4.6570597	3.87713992	3.42373646	3.1211029	3.47217691	4.76695379	6.74676206	9.31026615	12.8385297	15.5372332
Nepal	30.67062082	29.4158802	22.8689008	26.142574	27.0973304	28.7261508	33.1513863	37.2815056	51.6526455	59.1784546	54.5899878	52.954501	56.1292238	58.0325692	61.8969769
Netherlands		111.666345	110.651283	110.132611	113.964603	117.486698	114.563062	114.462725	112.311414	118.619037	115.054662	115.827075	118.363858	115.188557	118.373081
Oman	37.46014985	40.130079	38.899521	36.7878267	34.2252668	30.649887	30.7300395	35.5510376	35.1237163	46.6969323	42.3503483	41.1833448	41.9669012	43.0775904	46.8732849
Pakistan	22.33610055	21.7755025	21.67395	24.5972843	28.7361229	28.6455607	26.8499883	27.8432098	28.7337802	22.7227866	21.4129175	18.1263337	16.9400445	16.1155186	15.5889529
Paraguay	25.67292048	26.7967078	23.7278947	14.810635	14.731359	15.0968825	14.7187777	17.7562829	24.9565255	30.2868062	34.572088	38.9375091	42.675033	45.6946689	49.8666224
Peru	26.76335519	23.8007902	22.5429454	20.3215901	18.2211979	19.3664148	17.7551629	21.4163831	25.9274691	25.439481	25.3673549	27.1439584			
Philippines	36.76903275	37.5296361	34.8844743	33.1404906	32.2414135	29.0734731	28.6939874	28.8641382	29.064978	29.1627992	29.578534	31.8683202	33.4143805	35.8598655	39.1774102
Poland		23.6076125	12.8947343	13.3531836	26.279497	27.1181906	31.2023286	37.1141078	47.2648824	47.0325927	48.7487701	51.3888605	50.1032573	51.0678709	52.3302871
Portugal		114.958292	118.987813	120.597344	121.092806	124.69449	133.422385	142.248389	151.676124	159.83237	155.328901	156.196484	152.856357	143.274778	129.730891
Qatar	26.84899298	34.8932848	28.678249	29.9881582	28.9848665	33.7215866	35.9974582	41.5768408	40.8011855	51.7351087	44.701796	39.7530249	37.1284396	40.005319	46.0967803
Romania	7.089964602	8.58494066	10.0661593	13.6456831	15.5243838	19.8078174	25.6875413	33.7393628	36.0338392	37.3301923	39.0684646	39.109069	37.5217695	33.857573	31.1211848
Russian Federation	13.64569645	16.8377387	17.9911435	21.2435671	24.3164009	25.9225395	30.941924	37.7835928	41.5540933	45.260931	42.8400834	41.5820232	43.8749945	47.927435	53.4735892
Saudi Arabia	24.23561436	27.0904993	28.9483895	28.2333204	32.3542594	35.418918	33.7245868	37.0715888	37.6843188	45.6298013	39.1642134	34.1007294	36.3391799	40.2187358	44.2902349
Serbia	45.70069854	31.3878881	16.1790574	17.780119	21.8412617	27.8560707	27.8630561	34.076745	39.0103665	42.5495901	50.0077986	47.563112	49.5094938	43.5657187	43.4260433
Singapore	96.29355693	115.679351	102.686207	105.478539	96.4389914	89.4964022	84.7621947	85.8073259	98.570044	97.7392821	96.2175957	105.987678	114.688914	125.338188	129.491779
Slovak Republic							33.8075939	37.4414378	40.7363248	44.9419624	45.0977553	46.6590742	46.8090448	47.9890265	49.8094773
Slovenia						0.18587042	52.0863154	59.8485877	70.9013451	76.3519141	83.2773358	85.3180292	82.2065341	79.6615436	65.7340381
South Africa	130.3122229	138.792503	110.718368	115.862202	126.932346	138.159429	156.976212	160.124785	140.349876	145.941156	148.981396	139.602309	146.479763	149.233682	151.117886
Spain		95.1335196	99.3533879	106.439428	115.745165	135.514407	156.114543	167.129376	170.162826	172.408281	170.724419	166.752643	156.851267	145.753749	129.903644
Sri Lanka	28.83454354	30.7326783	31.0344654	30.7454902	32.3863509	33.0761026	34.6704921	34.2395037	29.5420065	25.7400302	25.5155765	35.0102339	35.0185784	34.7500943	35.8724258
Suriname	8.404236277	9.60309062	16.1900053	17.2677609	18.7558719	19.3158759	17.4884111	21.3584595	23.8646397	24.4076977	24.0185393	23.6572661	24.1947896	27.8152814	29.7302436
Sweden		90.510579	90.798915	90.7162647	92.3168212	99.9452423	103.334956	111.7612	118.566631	125.912777	124.384019	126.413474	130.128365	132.24176	131.205891
Switzerland	145.5975383	140.560934	141.105277	144.543615	146.233581	149.812065	153.916664	157.06977	149.261576	158.831567	157.910823	159.964921	166.692878	168.286035	169.164973
Syrian Arab Republic	8.298436522	7.73503621	7.87015446	10.1042393	11.6545241	14.7646273	14.8832974	15.1075054							
Tajikistan	13.7706934	22.9111781	17.4490287	14.7619038	6.12657639	9.10519624	9.50103093	13.1780341	26.8259081	22.8399014	14.1705395	16.0370434	14.6483063	18.4145586	21.4835765
Thailand	105.121739	93.0784471	96.8693915	94.1346633	95.1445903	93.8299057	88.9065621	106.362481	105.759731	108.983477	115.747504	130.673077	136.231043	142.363159	145.564259
Trinidad and Tobago	43.48547697	41.9059114	43.4830204	36.6111694	34.928592	34.5582266	35.9990449	34.4296141	29.369056	40.1211193	30.8454608	28.1256398	28.5784906	28.6184357	30.002532
Tunisia	59.98901245	61.5108847	62.3029658	60.7479738	58.950629	58.2917055	57.327912	57.8508167	59.890495	62.2474436	69.1119238	76.494787	76.2610242	76.9565874	78.1162644
Turkey	17.33516872	15.025878	14.1623466	14.1350943	16.739816	21.4308025	24.928032	28.2470562	33.644174	37.3466947	44.6547847	49.4240616	52.2280014	60.7094606	63.7910618
Ukraine	11.16894215	13.0296614	17.6547351	24.5837503	25.1672874	32.1969319	44.3626192	58.1697954	88.3781783	90.5726699	78.6461855	71.0750423	69.579246	73.4633869	75.2288456
United Kingdom	115.9342632	121.887803	126.091762	130.663499	138.445879	144.399756	155.007226	171.256927	193.744098	194.86224	187.945726	173.23452	163.474736	152.009011	137.389681
United States	162.0853783	170.207733	161.688213	176.564492	183.936318	187.847509	197.70712	206.302777	188.024095	191.840045	187.211748	177.853645	179.064858	192.529454	194.231614
Uruguay	45.09422693	53.8538857	70.5117383	43.1865431	24.1933896	22.4749431	23.9483713	23.410903	27.8426112	20.5218765	22.289127	23.0643818	23.4540304	25.9897179	27.0400295
Venezuela	12.46922362	12.1850965	9.97947313	8.77181107	10.9809791	13.1291685	17.0035569	23.4481141	21.4358503	23.5869664	18.8310115	20.4742256	25.3037497	29.8961497	

External debt stocks (%GNI)

External debt stocks (%GNI)	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014
Afghanistan							13.791832	20.4892856	20.950266	19.7770776	15.2237902	14.4934792	13.0902896	12.5855374	12.5646756
Albania	30.0195599	27.5797032	26.0026767	26.2928298	21.4516876	25.2492254	26.6392853	26.3478339	32.7357519	38.7045023	45.4973417	49.0942503	58.6864308	67.8768157	62.9210936
Argentina							26.6392853								
Australia							26.6392853								
Austria							26.6392853								
Bangladesh	28.3164143	26.929814	29.3279466	29.4690967	29.0270973	25.5176661	26.5751858	25.4662771	23.7197116	22.9990228	21.5706584	19.648524	19.7446365	19.6471507	17.8977716
Belarus	20.6474688	22.7464863	23.335777	21.170522	19.8595918	17.5136899	17.8126342	27.9186791	25.2650713	45.9056308	50.6218761	56.0937289	52.5691192	54.325996	52.3730688
Belgium															
Bolivia	72.1614583	60.5075344	66.3806759	75.436004	74.9809592	76.0152971	56.6375311	40.1428988	35.3605348	34.7160887	30.7785057	27.1350299	26.0162321	28.3365793	28.4013465
Brazil	38.6849626	43.0444885	47.6760522	44.1321875	34.281585	21.9861324	18.29017	17.8119754	16.2885453	17.7346605	16.4347234	15.8570417	18.2570185	19.8019419	23.1338656
Bulgaria	93.600843	79.9602906	74.088562	66.8639633	63.282841	62.272131	84.1588766	106.428331	101.876096	109.344561	102.176371	85.6647047	96.4616179	94.3924978	83.3718825
Burundi	127.247626	126.496859	151.80496	175.849197	152.927944	117.128334	108.503871	104.410692	86.4965553	35.2470761	30.8186476	25.849858	27.0907014	25.1670228	22.3582192
Cambodia	55.0672231	52.4790678	54.4145306	56.2204344	53.1942327	46.1059988	41.1124902	24.8265586	24.8438176	31.3595686	35.6548205	36.5608781	49.2396167	50.9800378	51.3738514
Canada															
Chad	80.3529884	64.9556829	66.188201	67.5405711	44.4100455	28.9861367	28.2921542	24.8467711	20.7422462	21.1362778	20.9423585	19.8147826	19.5657218	23.6672803	28.1678917
Chile															
China	12.1725353	13.9427454	12.7242184	12.5179984	12.6018511	12.4813939	11.7632288	10.4897187	8.21663331	8.77524467	12.0908645	13.9206928	13.3272851	15.4429079	16.8684617
Colombia	35.2086072	38.3111325	35.3214501	40.9000321	33.9056778	26.5919799	24.4859848	22.0975143	19.9784483	23.7186734	23.2887254	23.7959542	22.3648556	25.1567048	28.3608975
Costa Rica	32.9589567	32.2236053	32.2404461	34.4773735	32.2263741	33.8613965	31.9474755	32.298175	29.4442576	26.2626442	22.6134417	25.1612349	31.8060875	35.7795627	40.6122565
Cyprus															
Czech Republic															
Denmark															
Dominican Republic	20.1176802	21.8998897	25.8653973	36.5974675	38.6602736	24.149058	27.0372381	25.5985118	22.7962087	25.4075609	25.960116	27.2062267	37.9660156	40.6108579	42.3812125
Ecuador	101.161206	76.7047267	71.4951565	64.3365086	59.1681114	51.2879333	45.1818468	42.9102054	31.5745264	21.7971854	21.9586507	20.3778708	18.9329082	19.8583118	24.1088849
Egypt	29.0092455	28.7038157	33.7383612	36.7888938	39.9375821	34.1887246	28.7229791	26.2764463	20.6554292	18.7161457	17.1431232	15.2972754	14.6685424	16.5384748	13.9951011
El Salvador	35.2071238	39.4519338	43.7237387	58.921902	59.6320192	57.9490755	55.2335578	50.2066242	50.7959663	51.7570164	55.0557683	56.5135459	59.0775298	60.4582974	63.0828728
Fiji	11.3270767	11.0188377	11.379681	11.141054	9.66868917	9.92325739	12.5165714	11.9517575	12.1014605	19.383019	19.9624674	24.2645052	20.5319232	20.3234983	21.3611688
Finland															
France															
Gabon	91.3952407	78.2854853	72.2734897	65.1870859	62.1973401	45.2005638	46.9173216	45.8013242	16.1229359	21.7377032	20.2356716	17.8347576	18.5644096	27.213237	24.7011212
Germany															
Ghana	139.438719	131.769212	126.560117	111.162691	83.3763631	69.1859399	18.2311578	20.4775001	19.2242526	28.5313356	28.7920179	29.2687253	32.2363909	35.8161001	49.1842793
Greece															
Guatemala	20.710179	23.5146856	22.0820195	23.8617627	34.3633782	35.5691871	37.0418207	38.106499	36.3715666	40.5046856	37.5199997	35.3996614	31.2873782	33.2344984	34.1517118
Haiti	30.3368653	35.7408825	37.0265274	46.3503302	37.7543484	31.5137426	32.0484238	27.200754	29.9691999	21.9528878	14.4327102	10.2694028	14.6253364	18.527286	22.1691425
Honduras	81.5642127	70.5596037	73.4174852	72.7332405	74.5679894	56.0820382	38.6667441	25.2544801	26.2952487	27.2773092	26.3231971	26.2267421	29.2970596	39.8601338	40.4031824
Hungary															
Iceland															
India	22.1211417	20.9580601	20.9546445	19.9776923	17.7980135	15.0927847	17.473201	17.0614194	19.2501019	19.477629	17.7234406	18.5055803	21.7379019	23.303666	22.7071516
Indonesia	93.4798647	85.887658	67.6633506	59.5174112	56.3265853	52.2581361	38.9526398	35.6667102	32.08853	34.4530145	26.9757508	25.2948342	28.3147754	29.9868456	34.0304778
Iraq															
Ireland															
Italy															
Japan															
Jordan	129.223639	130.078735	134.85922	122.514525	111.652198	99.8333659	90.1470779	84.7610373	62.4079683	59.6265213	65.1393078	61.8309599	60.5067103	69.6832117	68.5760305
Kazakhstan	75.6555938	73.3418429	78.4255459	79.852433	82.4877619	84.7359694	104.022796	104.721544	93.5288666	106.861736	92.5923108	75.3928401	75.3366611	70.7867793	79.3323614
Kenya	48.8903673	42.8108814	46.8059622	45.5710884	43.3528005	34.6299182	25.9436773	23.6954246	21.3570158	23.1205574	22.2008176	24.2189197	23.6986926	25.3887303	28.0116132
Korea															
Kuwait															
Kyrgyz Republic	150.486731	124.410224	126.467213	115.691095	121.374597	95.1334885	93.1877539	76.7543006	73.5438791	91.3529895	91.7403425	99.1782747	93.7853645	98.5979976	101.768083
Laos	152.434338	152.134629	187.053417	131.223017	129.967914	122.802306	116.652442	122.384918	108.959538	112.624613	98.1694115	86.8264269	77.4564383	72.4836702	76.0081949
Latvia															
Libya															
Lithuania															
Luxembourg															
Macedonia	39.9677725	40.6801725	42.426041	38.6649958	50.0955716	48.4839671	48.24565	52.5222656	44.3060387	56.2074825	55.6186039	59.485397	67.854732	63.7870397	64.8713619
Malawi	159.103758	153.959869	84.0509133	98.2274719	100.389565	88.3826989	21.9844243	19.6948723	18.7716128	18.6607639	14.8971594	15.3835773	22.5540457	29.1268213	28.1789873
Malaysia															
Malta															
Mauritania	182.751151	181.72845	165.114715	145.575013	123.235324	103.277927	53.9863666	52.2895748	50.6929489	61.6929972	62.7899951	56.0258612	65.8229338	63.3008832	66.9297383
Mauritius	21.2348035	19.0616366	19.477277	17.9807934	14.888015	12.8272343	9.49169465	8.55716706	6.62333694	24.919781	27.0064478	82.5340741	86.3591609	109.571258	125.155843
Mexico	22.8164691	23.3611598	21.5779442	22.6385231	21.8373414	20.0814252	18.0661605	18.7277555	17.8436147	21.4261247	23.1714645	24.8555501	29.4921512	32.6651357	34.3437372
Mongolia	84.82608	74.7427449	79.1727823	97.5319839	80.4445552	56.4947255	44.3256566	42.0992949	40.0674406	68.0435415	89.6869672	100.810357	137.233988	161.571968	188.655008
Morocco	54.5752289	48.8003187	43.5336717	35.6943269	28.8244047	26.1872509	26.2880764	26.2564147	22.7024302	26.9400763	29.6509311	30.0385575	35.1578223	37.2739026	39.867146
Mozambique	116.376488	75.1373497	82.1056738	72.3371138	69.2360992	59.6468823	36.3667777	34.7314214	32.1513846	38.9139612	42.0934459	35.9203469	37.9592068	53.3662049	56.3869901
Myanmar	70.0841244	94.2516889	100.287795	72.1092029	71.9059139	60.8371066	52.6768009	43.1161024	27.1317324	25.4706216	20.5682782	18.0298691	19.5961752	21.234637	22.2332132
Nepal	52.1903729	45.4948641	49.6677067	50.8801586	46.4668552	39.1412691	37.3613786	34.6563441	29.1894268	29.0473942	23.496095	20.129619	20.0600014	20.6660089	19.6010474
Netherlands															
Oman															
Pakistan	45.2192153	44.7148362	46.5076639	42.4809909	36.2808514	30.4363334	26.5971408	27.1032211	28.5573254	32.648606	34.1006562	28.8874177	26.3019872	23.8518007	23.8352828
Paraguay	43.8386077	42.5256062	58.896096	124.973342	109.26004	112.794687	102.572164	83.7004951	72.0458258	94.6517944	85.4128354	65.4108395	69.9610559	57.5732499	56.2127358
Peru	57.0026235	54.1654619	53.0849789	53.1443427	50.070852	41.372735	35.9534061	34.1961375	30.9320299	32.998556	30.8384018	28.3280611	34.102807	33.1918751	35.3695545
Philippines	61.5525256	64.8232289	62.2502942	63.3377355	56.7924641	48.0294585	40.0154252	33.8473187	28.4969158	27.4105784	27.1670002	24.6240318	23.0174295	20.0444198	22.4524302
Poland															
Portugal															
Qatar															
Romania	30.2856605	31.4857558	36.7112484	38.8600939	40.6324519	40.1674025	45.1871714	49.5528517	47.7606185	66.8449024	70.308735	65.9688606	71.6197426	66.1381246	56.7731374
Russian Federation	57.9767011	46.6825865	40.8967908	44.5626565	37.0442769	33.5124246	32.3854406	32.7575216	25.9718852	34.3587349	28.2750268	27.334419	27.6205017	30.1448212	27.5393416
Saudi Arabia															
Serbia															
Singapore															
Slovak Republic															
Slovenia															
South Africa	19.0971729	20.8753723	29.8528852	21.7632561	19.2241682	17.7013173	22.2675252	25.095765	25.15227	27.1948165	29.5107594	28.7850242	37.5956504	39.133332	41.4587633
Spain															
Sri Lanka	57.7533288	57.8751303	62.1603882	57.3262074	56.7045793	46.8753052	42.5181412	44.2567054	41.0631295	46.904777	38.6453121	39.9072226	53.160791	54.1937916	54.4966212
Suriname															
Sweden															
Switzerland															
Syrian Arab Republic	120.540722	103.895972													
Tajikistan	138.360846	112.813014	107.72864	86.9154099	58.3465668	50.3412111	39.2914363	37.1115661	48.8811488	54.3219253	51.0920922	47.1615643	47.3680827	43.2733784	45.3895499
Thailand	64.4309346	57.5517257	48.5587123	40.0207801	35.3219652	32.3325643	29.2690024	24.7167275	23.7282905	29.7324083	32.5436941	30.381572	35.3919575	34.9084367	35.0149954
Trinidad and Tobago															
Tunisia	55.3242703	61.0563305	69.8064243	68.5738629	65.3341424	58.5006752	56.9108734	55.6989057	50.6129965	54.9234446	53.5254752	51.8708898	58.5574182	58.0708354	57.5114006
Turkey	43.4234754	57.8464247	55.3721665	47.042781	39.9876074	34.9971242	38.6164118	38.8396371	38.398148	43.7735284	39.3094699	37.0263932	39.0626615	41.4402108	43.8557146
Ukraine	45.8769459	59.4585583	56.1901952	52.1889274	50.097143	41.2125095	51.1781294	57.4304524	55.675652	91.5290042	92.7561377	85.9091187	77.2593058	81.2076719	95.9057537
United Kingdom															
United States															
Uruguay															
Venezuela	36.9350122	32.7195795	41.1959292	46.8800788	36.028368	31.6497667	24.7526716	25.2205178	21.138071	25.8551743	26.2052561	38.3061007	35.1904531	36.8381949	28.4625826

Development: Human Development Index (HDI)

Human development index (HDI)	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014
Afghanistan			0.373	0.383	0.398	0.408	0.417	0.429	0.437	0.453	0.463	0.471	0.482	0.487	0.491
Albania	0.669	0.676	0.682	0.689	0.694	0.704	0.711	0.72	0.724	0.729	0.741	0.752	0.767	0.771	0.773
Argentina	0.771	0.776	0.769	0.775	0.78	0.782	0.711	0.792	0.795	0.799	0.813	0.819	0.818	0.82	0.82
Australia	0.898	0.9	0.903	0.904	0.907	0.908	0.711	0.915	0.92	0.921	0.923	0.925	0.929	0.931	0.933
Austria	0.838	0.849	0.838	0.842	0.849	0.855	0.711	0.881	0.884	0.886	0.895	0.897	0.899	0.897	0.901
Bangladesh	0.468	0.477	0.483	0.49	0.497	0.505	0.513	0.52	0.523	0.535	0.545	0.557	0.567	0.575	0.583
Belarus	0.683	0.689	0.696	0.705	0.715	0.725	0.741	0.757	0.774	0.784	0.792	0.798	0.803	0.804	0.807
Belgium	0.873	0.876	0.879	0.882	0.885	0.889	0.896	0.899	0.899	0.899	0.903	0.904	0.905	0.908	0.909
Bolivia	0.608	0.611	0.617	0.621	0.622	0.624	0.63	0.631	0.64	0.647	0.649	0.655	0.662	0.668	0.675
Brazil	0.684	0.691	0.698	0.695	0.698	0.7	0.702	0.705	0.716	0.718	0.727	0.731	0.736	0.748	0.752
Bulgaria	0.712	0.722	0.729	0.738	0.745	0.75	0.756	0.764	0.771	0.774	0.779	0.782	0.786	0.792	0.797
Burundi	0.303	0.302	0.31	0.316	0.324	0.33	0.35	0.361	0.372	0.387	0.395	0.403	0.408	0.414	0.421
Cambodia	0.42	0.434	0.453	0.466	0.478	0.49	0.502	0.513	0.521	0.521	0.537	0.546	0.553	0.56	0.566
Canada	0.867	0.872	0.877	0.882	0.887	0.892	0.895	0.897	0.899	0.899	0.902	0.905	0.908	0.911	0.918
Chad	0.299	0.306	0.311	0.309	0.323	0.33	0.332	0.342	0.348	0.363	0.371	0.382	0.391	0.397	0.403
Chile	0.759	0.766	0.768	0.774	0.783	0.788	0.788	0.795	0.806	0.804	0.808	0.814	0.819	0.828	0.833
China	0.594	0.602	0.611	0.623	0.635	0.647	0.661	0.675	0.685	0.694	0.706	0.714	0.722	0.729	0.738
Colombia	0.653	0.656	0.658	0.657	0.671	0.683	0.691	0.704	0.71	0.715	0.719	0.725	0.725	0.735	0.738
Costa Rica	0.711	0.714	0.717	0.721	0.725	0.728	0.734	0.742	0.75	0.752	0.754	0.76	0.772	0.776	0.78
Cyprus	0.802	0.807	0.816	0.824	0.828	0.831	0.837	0.846	0.852	0.856	0.85	0.853	0.852	0.853	0.856
Czech Republic	0.796	0.806	0.813	0.822	0.825	0.835	0.843	0.85	0.854	0.857	0.862	0.865	0.865	0.874	0.879
Denmark	0.863	0.876	0.883	0.894	0.898	0.903	0.905	0.904	0.909	0.906	0.91	0.922	0.924	0.931	0.928
Dominican Republic	0.657	0.66	0.664	0.666	0.668	0.675	0.682	0.691	0.695	0.696	0.703	0.706	0.71	0.713	0.718
Ecuador	0.67	0.675	0.679	0.682	0.688	0.693	0.696	0.698	0.711	0.712	0.715	0.721	0.726	0.734	0.742
Egypt	0.611	0.616	0.62	0.622	0.628	0.634	0.642	0.65	0.658	0.66	0.665	0.668	0.675	0.68	0.683
El Salvador	0.615	0.62	0.628	0.635	0.643	0.651	0.659	0.656	0.659	0.659	0.671	0.666	0.67	0.671	0.67
Fiji	0.683	0.687	0.689	0.691	0.699	0.695	0.698	0.702	0.703	0.707	0.711	0.717	0.719	0.727	0.73
Finland	0.858	0.864	0.867	0.87	0.891	0.895	0.899	0.901	0.904	0.899	0.903	0.907	0.908	0.912	0.914
France	0.849	0.851	0.853	0.857	0.86	0.869	0.874	0.876	0.878	0.878	0.882	0.884	0.886	0.889	0.894
Gabon	0.633	0.636	0.639	0.641	0.641	0.647	0.647	0.652	0.653	0.661	0.665	0.67	0.678	0.687	0.693
Germany	0.868	0.877	0.883	0.889	0.897	0.903	0.911	0.915	0.917	0.917	0.921	0.926	0.928	0.928	0.93
Ghana	0.484	0.483	0.489	0.49	0.498	0.509	0.519	0.53	0.542	0.547	0.554	0.563	0.57	0.577	0.576
Greece	0.796	0.806	0.818	0.825	0.835	0.845	0.851	0.849	0.857	0.858	0.856	0.852	0.854	0.856	0.864
Guatemala	0.546	0.554	0.56	0.564	0.567	0.571	0.579	0.59	0.598	0.604	0.611	0.619	0.613	0.616	0.643
Haiti	0.442	0.444	0.446	0.449	0.45	0.453	0.458	0.462	0.466	0.47	0.47	0.477	0.481	0.486	0.49
Honduras	0.554	0.559	0.563	0.568	0.574	0.58	0.586	0.593	0.59	0.591	0.596	0.598	0.597	0.6	0.603
Hungary	0.769	0.777	0.784	0.792	0.795	0.804	0.811	0.813	0.818	0.818	0.823	0.827	0.83	0.835	0.833
Iceland	0.86	0.866	0.875	0.881	0.885	0.889	0.891	0.897	0.89	0.89	0.891	0.901	0.909	0.92	0.925
India	0.493	0.498	0.504	0.517	0.526	0.535	0.545	0.556	0.564	0.57	0.581	0.591	0.6	0.607	0.618
Indonesia	0.606	0.612	0.618	0.624	0.629	0.632	0.641	0.642	0.646	0.656	0.661	0.669	0.675	0.681	0.683
Iraq	0.607	0.614	0.616	0.603	0.628	0.631	0.636	0.638	0.643	0.646	0.649	0.656	0.659	0.666	0.666
Ireland	0.857	0.863	0.871	0.88	0.89	0.896	0.902	0.908	0.908	0.906	0.909	0.895	0.902	0.911	0.921
Italy	0.83	0.837	0.842	0.847	0.852	0.857	0.862	0.866	0.868	0.868	0.87	0.875	0.874	0.876	0.874
Japan	0.855	0.859	0.862	0.865	0.869	0.873	0.877	0.88	0.881	0.88	0.885	0.89	0.895	0.899	0.903
Jordan	0.702	0.708	0.713	0.719	0.726	0.729	0.732	0.735	0.736	0.734	0.728	0.726	0.726	0.727	0.73
Kazakhstan	0.685	0.7	0.713	0.725	0.737	0.747	0.754	0.759	0.759	0.763	0.765	0.772	0.781	0.788	0.793
Kenya	0.451	0.456	0.456	0.468	0.48	0.49	0.505	0.514	0.523	0.533	0.543	0.552	0.559	0.566	0.572
Korea, Rep.	0.817	0.824	0.832	0.839	0.847	0.855	0.862	0.869	0.874	0.869	0.884	0.888	0.89	0.893	0.896
Kuwait	0.786	0.786	0.788	0.791	0.789	0.783	0.788	0.788	0.789	0.79	0.792	0.794	0.796	0.795	0.799
Kyrgyz Republic	0.594	0.602	0.604	0.611	0.615	0.616	0.621	0.628	0.631	0.636	0.636	0.639	0.649	0.658	0.663
Laos	0.466	0.472	0.48	0.489	0.497	0.506	0.512	0.521	0.529	0.539	0.546	0.558	0.569	0.579	0.586
Latvia	0.728	0.745	0.76	0.774	0.788	0.802	0.809	0.818	0.821	0.818	0.816	0.821	0.824	0.833	0.838
Libya	0.727	0.731	0.735	0.743	0.743	0.747	0.751	0.752	0.757	0.755	0.755	0.707	0.741	0.707	0.695
Lithuania	0.756	0.768	0.779	0.791	0.798	0.809	0.817	0.825	0.831	0.822	0.824	0.828	0.831	0.836	0.851
Luxembourg	0.855	0.861	0.863	0.864	0.872	0.878	0.881	0.888	0.89	0.883	0.889	0.892	0.892	0.892	0.895
Macedonia															
Malawi	0.399	0.4	0.37	0.374	0.375	0.38	0.389	0.4	0.417	0.431	0.441	0.45	0.455	0.461	0.468
Malaysia	0.725	0.723	0.725	0.731	0.734	0.731	0.737	0.75	0.761	0.765	0.772	0.778	0.781	0.785	0.79
Malta	0.783	0.788	0.792	0.8	0.809	0.824	0.822	0.827	0.829	0.83	0.843	0.843	0.849	0.856	0.862
Mauritania	0.442	0.442	0.449	0.451	0.461	0.466	0.475	0.476	0.476	0.484	0.487	0.49	0.499	0.508	0.514
Mauritius	0.673	0.682	0.687	0.695	0.704	0.713	0.72	0.728	0.734	0.741	0.749	0.758	0.767	0.772	0.782
Mexico	0.702	0.705	0.71	0.717	0.724	0.728	0.736	0.739	0.742	0.743	0.743	0.751	0.757	0.756	0.761
Mongolia	0.589	0.6	0.609	0.622	0.637	0.65	0.66	0.672	0.683	0.689	0.697	0.711	0.72	0.729	0.734
Morocco	0.53	0.541	0.552	0.563	0.572	0.58	0.586	0.594	0.602	0.608	0.616	0.626	0.635	0.645	0.65
Mozambique	0.298	0.311	0.318	0.333	0.343	0.357	0.365	0.378	0.388	0.397	0.403	0.407	0.412	0.423	0.427
Myanmar	0.431	0.44	0.449	0.459	0.468	0.477	0.487	0.498	0.509	0.519	0.53	0.54	0.549	0.558	0.564
Nepal	0.446	0.447	0.457	0.462	0.469	0.475	0.486	0.491	0.502	0.514	0.529	0.535	0.548	0.554	0.56
Netherlands	0.876	0.879	0.878	0.883	0.886	0.891	0.897	0.904	0.906	0.906	0.91	0.921	0.921	0.923	0.924
Oman	0.704	0.716	0.725	0.736	0.742	0.748	0.752	0.764	0.782	0.789	0.793	0.795	0.804	0.812	0.815
Pakistan	0.45	0.457	0.465	0.473	0.487	0.5	0.505	0.513	0.515	0.522	0.526	0.53	0.535	0.538	0.548
Paraguay	0.624	0.632	0.642	0.64	0.646	0.649	0.649	0.655	0.664	0.659	0.675	0.68	0.68	0.695	0.698
Peru	0.678	0.686	0.687	0.686	0.693	0.698	0.695	0.703	0.712	0.715	0.717	0.729	0.729	0.736	0.746
Philippines	0.624	0.628	0.633	0.637	0.647	0.65	0.651	0.657	0.661	0.659	0.665	0.67	0.677	0.685	0.689
Poland	0.785	0.791	0.799	0.804	0.802	0.808	0.814	0.819	0.824	0.828	0.835	0.839	0.836	0.85	0.842
Portugal	0.785	0.79	0.792	0.796	0.797	0.8	0.803	0.81	0.814	0.817	0.822	0.826	0.829	0.837	0.839
Qatar	0.81	0.811	0.816	0.823	0.826	0.831	0.827	0.83	0.835	0.833	0.825	0.836	0.844	0.854	0.853
Romania	0.709	0.715	0.724	0.734	0.746	0.755	0.767	0.781	0.795	0.798	0.797	0.798	0.795	0.8	0.802
Russian Federation	0.72	0.727	0.732	0.74	0.746	0.752	0.759	0.767	0.774	0.771	0.78	0.789	0.798	0.804	0.807
Saudi Arabia	0.743	0.746	0.748	0.756	0.765	0.77	0.777	0.783	0.791	0.796	0.808	0.823	0.835	0.844	0.852
Serbia	0.711	0.716	0.72	0.726	0.734	0.742	0.747	0.751	0.757	0.759	0.759	0.769	0.768	0.771	0.775
Singapore	0.819	0.822	0.83	0.838	0.845	0.868	0.871	0.878	0.883	0.884	0.909	0.914	0.92	0.923	0.928
Slovak Republic	0.764	0.764	0.771	0.777	0.785	0.794	0.803	0.814	0.822	0.824	0.829	0.837	0.842	0.844	0.845
Slovenia	0.825	0.835	0.843	0.85	0.857	0.861	0.869	0.873	0.878	0.878	0.882	0.884	0.877	0.885	0.887
South Africa	0.63	0.61	0.617	0.615	0.613	0.614	0.616	0.621	0.633	0.642	0.649	0.657	0.664	0.675	0.685
Spain	0.825	0.828	0.83	0.833	0.837	0.844	0.848	0.853	0.856	0.858	0.865	0.87	0.873	0.875	0.88
Sri Lanka	0.685	0.691	0.697	0.705	0.711	0.718	0.724	0.73	0.738	0.74	0.745	0.751	0.757	0.759	0.763
Suriname					0.671	0.676	0.681	0.687	0.691	0.677	0.703	0.706	0.711	0.715	0.718
Sweden	0.897	0.9	0.902	0.908	0.896	0.899	0.902	0.905	0.901	0.899	0.905	0.906	0.908	0.912	0.92
Switzerland	0.889	0.891	0.891	0.896	0.901	0.905	0.912	0.915	0.917	0.927	0.932	0.932	0.935	0.938	0.939
Syrian Arab Republic	0.59	0.597	0.6	0.61	0.623	0.635	0.643	0.649	0.646	0.648	0.644	0.642	0.631	0.572	0.55
Tajikistan	0.55	0.558	0.568	0.578	0.587	0.593	0.599	0.604	0.618	0.62	0.634	0.637	0.642	0.646	0.645
Thailand	0.649	0.657	0.666	0.674	0.683	0.693	0.699	0.71	0.714	0.718	0.724	0.727	0.731	0.728	0.735
Trinidad and Tobago	0.716	0.721	0.728	0.737	0.746	0.752	0.757	0.768	0.773	0.772	0.775	0.773	0.774	0.779	0.779
Tunisia	0.653	0.661	0.666	0.673	0.682	0.689	0.695	0.701	0.707	0.71	0.716	0.718	0.719	0.723	0.725
Turkey	0.655	0.662	0.672	0.679	0.685	0.69	0.701	0.708	0.71	0.718	0.734	0.753	0.76	0.771	0.778
Ukraine	0.671	0.681	0.689	0.699	0.706	0.715	0.721	0.729	0.733	0.727	0.733	0.738	0.743	0.745	0.748
United Kingdom	0.867	0.871	0.874	0.878	0.886	0.891	0.889	0.892	0.896	0.899	0.905	0.899	0.898	0.915	0.919
United States	0.885	0.887	0.889	0.893	0.895	0.898	0.901	0.905	0.91	0.91	0.914	0.917	0.918	0.916	0.918
Uruguay	0.742	0.746	0.747	0.75	0.754	0.756	0.761	0.762	0.766	0.778	0.773	0.782	0.79	0.797	0.801
Venezuela	0.672	0.68	0.688	0.687	0.7	0.714	0.727	0.744	0.753	0.753	0.759	0.771	0.774	0.776	0.778

Economic

Savings (%GDP)

Savings (%GDP)	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014
Afghanistan									-11.7899381	0.948123426	0.172142932	7.616119456	15.96005875	25.00948232	18.1958626
Albania	34.04056669	37.62679375	31.37596016	29.47501249	24.77650108	27.76773609	26.82649996	23.36908313	16.28860321	16.47901164	22.00605614	23.59593223	22.12474187	17.5477698	19.18201658
Argentina	14.36840152	14.21407025	19.20101286	19.61916066	19.17473405	21.28630592	26.82649996	22.24578045	21.12454759	18.31781803	17.32133461	17.36013705	16.2230056	15.20527265	15.91864439
Australia	21.25154882	20.83440215	21.85467278	21.14474915	21.55767094	21.00042785	26.82649996	21.37902467	21.92566654	23.93536251	21.70350681	23.20232636	24.20942596	23.89867819	23.48195588
Austria						26.05580635	26.82649996	28.18846775	28.6969466	24.83647963	25.82356197	26.09395198	25.77487145	25.48385562	25.9622285
Bangladesh	27.79745769	28.42229043	30.74917643	30.1645967	31.57740067	32.91124021	35.33850447	36.31743462	37.38253287	38.97611857	38.78147102	38.05723592	40.59589684	39.74593591	37.77929258
Belarus	24.45881012	21.6565346	20.64636912	22.87695844	27.08934465	27.95570081	29.55841081	29.13434981	30.50203004	26.31590683	26.9710214	31.77821055	31.23242224	28.39568056	27.40843371
Belgium			26.15522516	25.90725461	26.77450412	26.8042772	27.37279505	28.23005237	26.94785462	22.42221124	26.24309685	24.01409912	24.71539715	23.30835633	23.10527158
Bolivia	11.01579584	11.2560724	12.29631941	14.4867196	17.04643165	19.88251206	26.58222909	28.63606366	28.98326837	22.89988728	24.97551394	25.58717725	25.69405685	23.89093958	20.7894779
Brazil	12.51831229	12.34831608	14.53723948	15.33364761	17.9968821	17.09197138	16.82199628	17.2896436	16.87559146	13.86129215	17.95563618	18.56616148	18.05018715	18.33662758	16.0183841
Bulgaria	13.62645644	15.38849073	17.58582391	16.5024763	16.57170162	16.24253405	14.56599719	8.929198665	15.38163776	20.97145397	21.58710301	22.76557109	22.45657218	24.39327861	23.46846052
Burundi	1.32796785	1.489883647	4.200173987	6.755630908	6.587317715	16.98191441	-0.33316605	13.99294529	9.517470584	0.727983494	6.365410268	9.722629105	17.54549842	17.89344187	12.55263004
Cambodia	14.20285415	16.32430524	14.35613918	14.21370684	12.5541501	13.60857778	19.86330896	19.21501501	16.71365932	18.80388623	13.47133842	10.96491752	11.87545556	13.96046496	15.25271567
Canada	23.80027122	22.62629971	21.71281973	21.92869822	23.65888715	24.44479641	24.60820758	24.40132145	24.2589756	18.53686047	19.3189657	20.85118673	20.89237992	21.57543552	22.12470139
Chad															
Chile	21.06662334	21.31400634	21.50541752	20.71675122	22.48020147	23.28775903	25.33078695	25.17406241	22.75021569	22.82604036	24.4820273	22.97872825	22.38686544	21.46942448	21.6625534
China	35.82047901	37.37256109	39.01411998	42.57499881	45.86294109	46.1815373	48.55020696	50.85886673	52.27693977	50.97177161	52.05953503	50.1358201	49.63666825	48.64278825	49.15839753
Colombia	13.57452316	12.83404823	13.92333144	15.39711328	16.82903185	17.48013236	18.90414162	18.51853357	19.33462325	18.59156949	18.00826829	19.56614649	19.32012475	19.29689838	18.7421058
Costa Rica	15.63745315	16.4871479	14.28079433	13.37871722	14.80357796	14.0153616	16.34938169	17.23900233	15.43727831	15.74293746	15.640458	13.56630885	14.36683945	13.08250063	13.17562567
Cyprus	19.42320163	18.01203833	19.18394399	19.51979205	19.82802748	19.13615706	18.93254386	17.97899181	13.84453186	15.14321788	12.54391018	14.75837484	10.12061466	8.266885321	7.983215474
Czech Republic	28.05073885	28.05018633	26.23433951	24.75096084	25.40779254	26.26704272	26.04678152	27.36736304	26.23929993	22.63470469	22.21096047	22.76999076	24.1173204	24.21439584	25.31718815
Denmark	25.17961597	26.00901615	25.32835153	25.47912971	26.12132666	26.40806853	27.64617666	26.74064453	26.88834633	22.56650096	24.62750075	25.71518808	25.74172997	27.45200147	29.00360069
Dominican Republic	21.85905645	20.93639686	20.87359209	21.92936518	21.83442594	16.12156325	17.32308429	22.68575216	20.0979437	18.16114727	18.40876025	17.03010986	17.48954655	17.14139684	18.19849598
Ecuador	25.74431765	19.29145162	18.71054446	18.39946302	19.1632081	22.81192821	26.14127302	26.79452544	29.55950718	26.35352046	25.59982456	27.74929762	27.71558193	27.21697189	27.41004014
Egypt	18.04942511	18.56020181	18.26149691	18.50997811	21.0982159	21.83667871	22.97384048	23.55328695	23.62350084	16.84350806	17.95286314	16.86838521	12.87383917	13.68015974	11.88639703
El Salvador	27.16412762	30.84868663	28.56120537	28.4208165	30.5581223	33.0340423	33.40782782	31.83087462	30.80224414	29.66270029	29.88504955	26.38518443	23.16605167	20.84970229	22.22653751
Fiji	32.99432468	32.03056008	37.72764433	37.42382596	39.23742244	16.9168315	3.810846286	8.028605796	4.584970362			25.84683565	15.82917088	17.95837277	15.72536732
Finland	31.1914536	31.8282329	30.69735943	27.76611884	29.34749419	28.34583175	28.51178623	29.70860346	27.8828343	23.29338213	23.15617521	22.14499136	20.69174253	19.70351744	19.70832618
France	24.58904843	24.36086809	23.12955756	22.58056383	23.02139881	22.84814362	23.5999256	24.06776129	23.56828495	20.58862388	20.97336207	21.80393947	20.59597306	20.45101078	20.65255322
Gabon	41.65401027	33.83877482	34.73577876	32.72218692	32.11735751	44.62693807		40.05883333	44.38250519	34.46598928	41.15671806	43.75904267	43.89070914		
Germany	22.10443914	21.89511726	21.77094871	21.05226431	23.53780161	23.37753617	25.44567243	27.52260158	26.46896814	23.82012563	25.2313479	27.20375742	26.32637875	26.18672763	27.00526901
Ghana	15.2654209	21.09260967	18.75403504	21.15696563	22.87179036	19.22743674	17.80673723	6.76655713	4.382194025	11.05796691	4.875990724	3.84344109	5.17468875	1.235889472	10.04447572
Greece	18.10748124	18.52697538	16.88445205	18.10437641	17.52547259	15.55181454	15.36042041	12.73700057	10.1053849	5.927576284	5.577569821	4.870591513	8.518451545	9.666501082	10.0150281
Guatemala	12.39627022	11.4934125	15.30635046	15.73674048	17.03330401	15.15802063	15.73725781	15.82235467	11.40826703	13.14892244	12.38597757	11.7813103	12.38712363	11.9424294	11.5736626
Haiti	26.1663216	22.91983697	22.51508114	29.16477095	25.94095076	27.59656904	27.46040513	29.20535711	24.42748876	25.65656859	23.85350237	23.5145917	29.09063857	30.03652099	30.61804543
Honduras	20.30992752	18.89379299	18.80900593	18.94239666	20.34209454	24.05546827	25.23863757	24.13767324	20.7535567	16.48067638	17.52505485	18.47709141	16.04803696	12.37997244	14.56225302
Hungary	20.41983432	20.82192658	19.26498591	16.81681468	17.02815393	16.34145654	17.97941496	16.71191556	17.3085067	19.06304983	20.44335208	20.86113631	20.94958678	24.4403817	24.221503
Iceland	14.79796757	19.43113595	22.57187884	18.13551184	16.38571277	13.44556817	12.67999401	15.7152682	3.137151781	4.762262417	6.786998521	9.762323096	11.56755075	20.87638629	20.44580582
India	25.98527658	26.13867941	28.00478275	30.37842291	33.23361621	34.21133813	35.48572666	36.564522	36.03035591	35.11601986	35.75911259	35.13179654	35.26129179	34.30465633	33.46602422
Indonesia	26.28689921	27.19979393	23.01740778	20.68405036	20.76428995	24.33848664	25.77714359	25.17912344	28.45241261	29.0563768	32.72742299	33.22007305	31.98536977	31.12176664	30.66890946
Iraq						50.46565666	47.82318676	43.98283893	55.20636775	27.67261234	35.9769542	44.8850857	41.82918064	28.0003875	28.28332427
Ireland						26.8353536	27.1025953	23.67132697	18.41129889	14.72276126	16.24877518	16.83378583	18.14263887	22.48806725	24.84938378
Italy	20.7728768	21.19427558	21.13587051	20.46244421	20.82193614	20.19606318	20.39833743	20.79372346	18.97233448	17.51089403	17.11167258	17.45627429	17.49589194	17.92019665	18.90192809
Japan	29.96381017	28.56102341	27.3040178	27.50288808	28.08584903	28.2674399	28.5458111	29.12342143	27.35820328	24.08195648	25.12370501	24.16844053	23.55515271	24.03495652	24.65881472
Jordan	22.68714859	20.77855704	25.24683269	32.59529155	27.72697925	16.10578625	16.8762408	12.83863696	19.25852014	20.53978642	16.89868669	15.20428899	11.66922617	17.6262761	20.69078568
Kazakhstan	20.54225637	24.16627814	29.67727065	28.05887933	27.13646794	28.78583122	30.93705744	29.37995678	30.12236439	29.23689183	30.39247107	32.80274914	29.52970052	28.75411202	30.0022657
Kenya	12.88052415	9.776646125	8.533094478	9.474741952	11.96134347	13.87269549	16.06123804	16.66189724	15.40485658	14.5141982	14.12514272	13.56623392	12.5544847	9.420162383	10.27251873
Korea, Rep.	34.14924343	32.13629515	31.5775544	33.0539321	35.24280923	33.36890862	32.5918327	32.99993314	32.79458445	32.69847173	34.82254136	34.6505156	34.37428459	34.47424664	34.4927896
Kuwait	49.56703023	38.1586925	28.2323574	36.31406332	47.15590569	56.7931166	64.71602528	57.24853722	58.50149602	45.20803311	50.68854537	57.49380182	58.9796	55.10811937	50.168611
Kyrgyz Republic	14.66665186	17.1692422	16.89272221	10.05452316	15.42661522	14.69537937	10.92524018	20.82857915	14.63574057	25.15729752	19.93423675	17.40381049	12.74039314	9.116788712	11.54827422
Laos	8.529461086	1.396712837	18.36760584	10.56472019	14.72240539	20.24489327	22.56832536	19.13917856	14.03251211	16.62230576	9.676115267	18.40332942	6.575821183	5.435712764	10.01307283
Latvia	18.57902129	19.47962804	20.48222922	21.29217865	19.93815812	22.61018641	17.81685854	20.43363968	22.41803704	29.91689136	21.44945408	22.10852588	22.63696067	22.03635409	21.18859486
Libya			27.78094726	49.30629714	43.29316566	62.28486017	67.9827275	63.09277782	67.32703962						
Lithuania	12.88352188	14.30718906	15.50259176	15.09952519	15.28161641	16.96635229	16.05192021	16.76715145	14.28902905	13.82928489	16.75199208	17.23356298	18.04106837	20.40700716	22.44524468
Luxembourg	33.97014088	33.05514935	28.04714864	26.65111003	36.70483204	39.39835865	32.16534658	39.8408309	34.61334188	14.66613572	23.40550977	21.83354499	19.44291794	18.52020896	18.51823988
Macedonia	21.90019398	12.64506692	13.06420387	15.71293416	14.57275128	18.55259409	21.89941076	17.63973851	16.19920748	20.41841813	23.79966874	25.87092723	26.66151937	27.37629321	29.72914604
Malawi	9.517732359	10.13274057	5.462511333	5.241800452	4.580512693	2.293887152	7.502238991	20.03694401	14.37231753	19.45499809	18.4021563	10.23022821	2.173395138	13.86943663	12.59155207
Malaysia	35.91737958	32.25177903	32.73490914	34.85265146	35.1374225	36.81600718	38.79645075	38.76688233	38.51784497	33.357147	33.46660446	34.08180525	30.9153501	29.41984503	29.36654762
Malta	17.90187222	17.65852224	20.05011278	18.58614303	16.53840056	16.39105796	14.11818218	17.93364721	19.70299664	13.95393152	18.61720889	19.9436688	20.46210347	22.84531518	27.5609801
Mauritania													34.68403718	33.31686502	25.03490858
Mauritius	26.31914098	28.40835957	27.57276978	24.7424653	22.5995143	17.36886784	20.58966438	25.10239425	18.89253395	14.84563013	16.01805138	14.46863741	13.94988274	10.58139071	6.431413267
Mexico	17.98635563	16.3939028	15.68957121	16.97849354	20.71181508	20.31630407	21.86314043	24.38732174	24.42309167	24.89937762	25.23127927	24.79640287	23.79652394	20.60948784	21.65927967
Mongolia	17.4236104	17.9178901	16.28291305	25.03807312	33.65779466	39.55757389	45.95742489	41.03180192	29.96148884	27.22845591	26.63044842	30.40358846	27.698275	26.28005207	23.44557545
Morocco	25.19269649	31.76723453	30.8547807	32.26516632	32.75782588	32.38592333	33.58478333	33.56861635	33.81995895	29.42489511	29.32514425	27.61336167	24.76988183	26.55326003	25.83553782
Mozambique						2.185561857	4.282712318	6.169641275	9.615923887	7.834340299	8.379280459	10.38635626	7.956433283	9.335453042	10.85909818
Myanmar									18.34943204	16.93330415	33.15459863	37.59950957	33.58313399	32.23019402	29.76060347
Nepal	21.73051331	18.55020441	25.13148362	25.12676611	27.57583417	30.68571741	29.50425285	31.05886965	36.65691212	37.24818062	37.75048339	39.50676497	40.27528983	43.82204337	46.27102319
Netherlands	29.67351057	27.24273962	26.17249411	27.20757664	28.16530533	27.09139448	29.62212787	29.67600828	27.4878489	27.07244478	28.17110851	29.55614199	29.44247574	28.29050946	27.36660947
Oman	31.85360238	28.06377602	26.9687149	29.50638359	31.09771467	37.52321981	33.46028862	39.49869607	44.73848476	27.17206817	34.08455872	37.05632379	38.14911826	36.51900995	29.59199525
Pakistan	20.35417883	22.16602971	26.07970078	27.95148953	27.49984612	25.56682132	21.71342891	21.20551789	16.88776394	20.30186973	21.55170317	21.37534141	20.50675535	21.44215101	22.57275301
Paraguay	12.97159976	15.46408603	24.89409094	17.26837274	16.33608876	16.0481926	18.42216327	21.10430981	17.06263187	16.30441536	15.53223949	17.04777796	12.62881895	16.83813915	15.58446073
Peru	17.31937946	16.66479751	16.95175338	16.8011088	17.83725569	19.74207343	23.32665637	24.11641848	22.75117687	20.92044192	22.44612522	23.59102325	22.40392922	22.20323779	20.63916732
Philippines	40.54852531	42.41456999	43.56728811	43.53505556	43.97753629	45.79335359	44.83970961	43.96468142	43.23788223	46.64061968	48.07973147	44.90042128	43.24996272	45.05677612	46.09955945
Poland	18.62666676	17.43132557	15.70223065	16.34509676	14.67139496	17.24782825	17.76819133	18.89250629	17.99649437	16.5870758	16.03117105	17.4449386	17.38844684	17.80730076	18.31304233
Portugal	17.58527206	17.729843	17.03832847	16.0980687	15.19713215	13.36572272	12.24631845	12.86115024	10.51895478	10.31933597	10.29483472	12.72485058	13.37938265	15.18927301	14.70489206
Qatar												60.09941899	60.32917006	58.25187422	55.74937988
Romania	16.13638953	17.22633435	19.18164712	16.1456618	16.0662603	15.31850308	16.94613114	17.7138951	21.51163211	21.94679613	21.87453399	22.85850904	22.17445314	24.50361553	24.10108362
Russian Federation	36.15399545	32.51308406	28.70032327	28.26616892	30.26047358	30.54658666	30.66089065	31.26690244	30.06395024	20.87621557	26.28374683	29.27781782	27.86268696	24.65334944	24.95823269
Saudi Arabia	30.25821128	28.02757881	29.27031712	34.81638225	42.13973655	48.6495988	48.49559901	48.92514095	52.752309	36.5986336	43.56369647	50.59071245	48.75299823	44.2615755	38.53144402
Serbia								12.59126876	10.11288607	13.42014478	12.47766597	11.59693036	10.18504366	12.04185648	11.62201696
Singapore	46.24248455	40.37311428	37.71865584	38.50218787	39.67499557	42.93062628	47.93274264	50.19668391	44.68515552	45.67932823	51.67972816	49.83663901	47.70127994	47.36763634	48.53282542
Slovak Republic	24.91765978	24.04214331	23.66669766	19.41505642	20.47359158	21.92995342	21.3200598	23.62926361	22.86491935	17.43185536	19.49084816	19.30327735	21.26028743	22.24102345	22.4121757
Slovenia	25.61479678	26.27526881	26.08767226	25.49857461	25.85309277	26.8230595	28.67354364	28.92299662	27.70845692	22.96644137	22.38300081	22.52586145	21.80345432	22.70349131	25.34160907
South Africa	15.49620286	14.89553488	17.51975828	17.19040152	16.3535477	15.68091404	17.23417909	16.65396253	17.39612527	17.48482983	18.01233716	17.54053451	15.10445602	15.36216988	15.66154498
Spain	22.49000009	22.42188804	23.07877242	23.86125526	23.08191751	22.45766411	22.22272988	21.69510789	20.3995026	20.22004495	19.59462313	18.64854071	19.65773882	20.19361317	20.46969376
Sri Lanka	22.0996559	22.95410178	21.31126879	21.65615495	22.11889732	24.16260618	22.68999129	23.62639719	18.03289786	23.92957841	28.45768763	26.28610498	33.30157012	29.86618494	29.80436031
Suriname						5.199044286	34.53567069	55.60508622	52.09755104	52.64341042	50.347135	62.94279363	61.10862095	59.06291287	62.71252785
Sweden	27.42665451	27.93263571	26.99559536	28.52751957	28.42712649	29.13769462	31.8928189	33.39333069	32.80888033	27.8077358	29.63697765	29.10474595	28.02472219	27.50298631	28.02065439
Switzerland	36.31180461	33.12233206	31.30824066	35.14136744	35.64718955	37.45347645	39.39110458	34.50285626	27.33913184	33.91231028	38.68343533	34.43047471	35.25724445	34.90227924	32.69005693
Syrian Arab Republic	22.17963113	25.37536188	26.11738855	25.65236645	20.14448818	19.91438462	21.59739732	28.93589277							
Tajikistan			21.60925515	22.33433149	22.30999874	20.32494011	28.77686684	46.43278238	50.48802286	34.61234364	38.01255514	28.78822469	25.70582613	28.41193231	20.321712
Thailand	30.7821741	28.22565201	28.10385613	27.9737805	27.89928332	28.24094505	30.44518082	32.24992412	30.66200497	29.27401269	29.62757395	31.43388701	29.24282829	27.49012294	27.5773427
Trinidad and Tobago															
Tunisia	22.14571167	22.16996789	20.38504632	20.35843071	21.18574275	20.28625125	21.16488358	20.67575026	20.94912391	21.04352078	20.5409606	15.48402543	15.99547237	14.09025282	13.86562496
Turkey	20.97620734	20.88727372	21.8143985	19.90333373	21.47683415	22.85099472	23.96005	23.24202571	23.97349074	21.40745128	21.31820287	22.46634709	22.80580169	23.1949357	24.42793923
Ukraine	24.44676802	25.50790288	27.67583615	27.78005794	29.49993695	28.11266955	23.2608384	23.21172532	39.00746609	15.57361733	17.55033044	15.77386699	13.06836102	8.734584473	9.877548873
United Kingdom	15.63507755	15.45043935	15.20061344	15.32910667	14.98929224	15.62060472	14.96204096	15.48135713	13.07822932	10.9712375	12.63518161	13.56947286	11.83084414	11.56391369	11.74991152
United States	20.76556434	19.62623369	18.30076281	17.46826292	17.66261277	18.04474907	19.3114992	17.50860137	15.6718154	14.57493544	15.31950355	15.95373441	17.97810805	18.54338344	19.34559124
Uruguay	10.96974661	11.44395291	15.38457934	14.92567807	16.72337975	17.57854649	16.49908537	16.87082585	15.90854665	17.58580322	17.01240936	17.40557213	16.94327848	16.53728503	16.13458421
Venezuela	34.47165521	29.09026108	30.31434456	29.57641855	35.50103919	40.63935011	40.70429809	37.13654278	36.56020403	22.41370968	31.43295512	30.54288285	25.62897701	19.02767037	8.939355092

Unemployment (%)

Unemployment (%)	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014
Afghanistan	11.184	11.5839996	8.69099998	8.85299969	10.0010004	8.47000027	9.05700016	7.80200005	8.75500011	6.70499992	7.8210001	8.22999954	7.93599987	8.45199966	8.70600033
Albania	22.7299995	22.6800003	21.4880009	20.1529999	18.8180008	17.4629993	16.0400009	13.5	13.0500002	13.7600002	14.1999998	13.9799995	13.4399996	15.6400003	17.4899998
Argentina	15	17.3199997	19.5900002	15.3599997	13.5200005	11.5100002	16.0400009	8.47000027	7.84000015	8.64999962	7.71000004	7.17999983	7.21999979	7.0999999	7.26999998
Australia	6.28000021	6.73999977	6.36999989	5.92999983	5.38999987	5.03000021	16.0400009	4.38000011	4.23000002	5.55999994	5.21000004	5.07999992	5.21999979	5.65999985	6.07000017
Austria	4.69000006	4.01000023	4.8499999	4.78000021	5.82999992	5.63000011	16.0400009	4.86000013	4.13000011	5.30000019	4.82000017	4.55999994	4.86999989	5.32999992	5.61999989
Bangladesh	3.26999998	3.40799999	3.55800009	4.32000017	4.36199999	4.25	3.58999991	3.91000009	4.23899984	5	3.38000011	3.6500001	3.91400003	4.42999983	4.4289999
Belarus	0.90799999	0.89999998	0.917	0.90899998	0.89999998	0.88099998	0.875	0.87900001	0.87099999	0.89999998	1.14999998	0.68000001	0.62	0.50999999	0.49000001
Belgium	6.59000015	6.17999983	6.90999985	7.67999983	7.36000013	8.43999958	8.25	7.46000004	6.98000002	7.90999985	8.28999996	7.13999987	7.53999996	8.43000031	8.52000046
Bolivia	4.46999979	5.4000001	5.4000001	4.8499999	4.30000019	5.07999992	4.46000004	4.90999985	2.5999999	2.8599999	2.53999996	2.22000003	2.04999995	2.3900001	2.00999999
Brazil	9.79500008	9.35000038	9.10999966	9.72999954	8.89000034	9.31000042	8.39000034	8.09000015	7.62699986	8.27999973	7.25699997	6.69000006	7.19000006	6.98999977	6.67000008
Bulgaria	16.2199993	19.9200001	18.1100006	13.7299995	12.04	10.0799999	8.94999981	6.88000011	5.61000013	6.82000017	10.2799997	11.2600002	12.2700005	12.9399996	11.4200001
Burundi	1.69700003	1.70099998	1.70099998	1.69700003	1.68900001	1.67799997	1.66499996	1.64900005	1.63399994	1.60399997	1.574	1.54499996	1.51499999	1.48599994	1.57000005
Cambodia	2.47000003	1.82000005	2.00999999	2.08200002	2.34800005	1.99899995	1.64100003	0.87	0.44	0.19	0.34999999	0.2	0.16	0.30000001	0.18000001
Canada	6.82999992	7.21999979	7.65999985	7.57000017	7.19000006	6.76000023	6.32000017	6.03999996	6.13999987	8.34000015	8.06000042	7.51000023	7.28999996	7.07000017	6.90999985
Chad	5.6170001	5.67999983	5.68499994	5.71400023	5.73799992	5.71899986	5.70200014	5.71600008	5.71700001	5.71899986	5.74599981	5.69999981	5.704	5.69299984	5.68200016
Chile	9.15999985	9.13000011	8.93999958	8.5	8.81000042	8	7.69000006	7.13999987	7.80000019	9.68999958	8.42000008	7.34000015	6.65999985	6.21000004	6.65999985
China	4.53000021	4.53000021	4.40999985	4.30000019	4.30000019	4.13999987	4	3.75999999	4.36000013	4.28800011	4.19999981	4.34000015	4.46999979	4.53999996	4.59299994
Colombia	20.5200005	15.04	15.6300001	14.1899996	13.7200003	11.8699999	12.6999998	11.1999998	11.2700005	12.0699997	10.8800001	10.1899996	9.81000042	9.18999958	8.52999973
Costa Rica	5.07999992	5.90999985	6.32999992	6.55999994	6.38999987	6.57000017	5.73999977	4.48999977	4.78000021	7.71000004	8.92000008	10.1800003	9.89999962	8.96000004	9.11999989
Cyprus	4.98000002	3.97000003	3.30999994	4.13000011	4.32000017	5.30999994	4.53999996	3.91000009	3.6500001	5.36000013	6.26000023	7.86999989	11.79	15.8800001	16.0799999
Czech Republic	8.76000023	7.98999977	7.01999998	7.53999996	8.21000004	7.92999983	7.1500001	5.32000017	4.38999987	6.65999985	7.28000021	6.71000004	6.98000002	6.94999981	6.11000013
Denmark	4.48000002	4.15999985	4.26999998	5.4000001	5.19999981	4.82999992	3.9000001	3.79999995	3.43000007	6.01000023	7.46000004	7.57000017	7.53000021	7	6.59000015
Dominican Republic	6.95100021	7.12099981	6.92199993	7.3119998	7.04400015	6.48000002	5.55999994	5.07000017	4.67000008	5.34000015	5.01999998	5.82000017	6.51999998	7.07000017	6.4000001
Ecuador	8.97999954	10.71	9.06999969	11.4399996	8.55000019	7.73999977	7.69000006	6.07000017	7.30999994	6.46999979	4.09000015	3.46000004	3.23000002	3.07999992	3.48000002
Egypt	8.97999954	9.26000023	10.0100002	11.0100002	10.3000002	11.1999998	10.4899998	8.80000019	8.52000046	9.09000015	11.8500004	11.8500004	12.6000004	13.1499996	13.1000004
El Salvador	6.96000004	6.96000004	5.73000002	6.26000023	6.05000019	7.21999979	6.57000017	6.40999985	5.88000011	7.32999992	4.88999987	4.30000019	3.8499999	3.69000006	4.15999985
Fiji	7.52299976	7.95100021	8.32999992	8.22000027	4.69999981	4.61999989	6.63100004	8.56999969	8.93999958	8.72000027	8.90999985	9.02000046	9	7.579	6.17000008
Finland	11.1300001	10.29	10.4200001	10.4700003	10.3599997	8.38000011	7.71999979	6.8499999	6.36999989	8.25	8.39000034	7.78000021	7.69000006	8.18999958	8.65999985
France	10.2200003	8.60999966	8.69999981	8.31000042	8.90999985	8.48999977	8.44999981	7.65999985	7.05999994	8.73999977	8.86999989	8.81000042	9.39999962	9.92000008	10.3000002
Gabon	17.2619991	17.3759995	17.2119999	17.2040005	17.0900002	16.9099998	17.4899998	18.5219994	18.8740005	19.2950001	20.3899994	20.3659992	20.2290001	20.1889992	20.0839996
Germany	7.92000008	7.76999998	8.47999954	9.77999973	10.7299995	11.1700001	10.25	8.65999985	7.51999998	7.73999977	6.96999979	5.82000017	5.38000011	5.23000002	4.98000002
Ghana	10.3599997	9.23099995	8.10200024	6.97399998	5.84600019	4.71700001	3.5999999	4.04400015	4.49700022	4.93200016	5.32000017	4.47200012	3.62899995	2.17000008	2.16400003
Greece	11.25	10.46	9.97000027	9.40999985	10.3100004	9.98999977	9.01000023	8.39999962	7.76000023	9.61999989	12.71	17.8600006	24.4400005	27.4699993	26.4899998
Guatemala	1.41999996	1.29999995	3.13000011	3.4000001	3.13000011	2.46399999	1.82000005	2.5	2.80299997	3.0999999	3.74000001	4.13000011	2.86999989	3.31999993	2.91000009
Haiti	8.5880003	10.1120005	11.3699999	12.6330004	14.4860001	15.0290003	16.1539993	16.7999992	16.5540009	15.467	15.9460001	13.7180004	14.1000004	13.8529997	13.9390001
Honduras	3.88800001	4	4.01999998	5.30000019	5.98999977	4.90999985	3.56999993	3.21000004	3.16000009	3.28999996	4.11999989	4.46999979	3.75	4.0999999	5.48999977
Hungary	6.55999994	5.67000008	5.61000013	5.78999996	5.82999992	7.19000006	7.48999977	7.40999985	7.82000017	10.0299997	11.1700001	11.0299997	11	10.1800003	7.73000002
Iceland	1.94000006	1.87	2.99000001	4	4.03000021	2.54999995	2.82999992	2.25	2.95000005	7.21999979	7.55999994	7.03000021	6	5.38000011	4.9000001
India	4.31699991	4.32600021	4.43200016	4.30800009	4.36899996	4.39599991	4.23699999	4.05999994	4.11600018	3.75099993	3.53999996	3.52900004	3.62100005	3.46399999	3.41400003
Indonesia	6.07999992	5.88000011	6.34000015	6.17999983	6.71000004	7.71000004	7.55000019	8.06000042	7.21000004	6.11000013	5.61000013	5.1500001	4.46999979	4.34000015	4.05000019
Iraq	9.21899986	9.13500023	9.02700043	7.93300009	7.86299992	8.58199978	8.52799988	8.64999962	8.49300003	8.50300026	8.33600044	8.20800018	7.96000004	8.06400013	8.20300007
Ireland	4.32000017	3.68000007	4.21999979	4.48000002	4.48999977	4.34000015	4.40999985	4.67000008	6.4000001	12.0100002	13.8500004	14.6199999	14.6700001	13.04	11.2600002
Italy	10.8400002	9.60000038	9.21000004	8.86999989	7.86999989	7.73000002	6.78000021	6.07999992	6.71999979	7.75	8.35999966	8.35999966	10.6499996	12.1499996	12.6800003
Japan	4.73000002	5.03999996	5.36999989	5.25	4.71000004	4.42000008	4.13000111	3.8499999	3.98000002	5.07999992	5.07000017	4.55000019	4.3499999	4.03000021	3.57999992
Jordan	13.6999998	14.6999998	15.3000002	14.5	14.5459995	14.8000002	14	13.1000004	12.6999998	12.8999996	12.5	12.8999996	12.1999998	12.6000004	11.8999996
Kazakhstan	12.75	10.4300003	9.32999992	8.77999973	8.39999962	8.13000011	7.78999996	7.26000023	6.63000011	6.55000019	5.76999998	5.38999987	5.28999996	5.19999981	5.05999994
Kenya	10.1129999	10.2440004	10.3199997	10.4130001	10.4809999	10.5249996	10.6719999	10.8269997	10.9309998	12.1700001	12.0880003	11.9879999	11.8769999	11.7650003	11.6669998
Korea, Rep.	4.42000008	4	3.27999997	3.55999994	3.67000008	3.73000002	3.45000005	3.23000002	3.16000009	3.6400001	3.72000003	3.41000009	3.22000003	3.11999989	3.52999997
Kuwait	0.80000001	0.80000001	1.10000002	1.29999995	1.70000005	1.95000005	1.29999995	1.5	1.75	1.63999999	1.82000005	3.5999999	3.51200008	3.42499995	2.9000001
Kyrgyz Republic	7.5	7.80000019	12.5500002	9.92000008	8.52999973	8.10999966	8.27000046	8.14999962	8.22000027	8.40999985	8.64000034	8.52999973	8.43000031	8.32999992	8.05000019
Laos	1.83200002	1.671	1.53799999	1.39199996	1.25699997	1.35000002	1.21099997	1.05999994	0.91299999	0.764	0.70999998	0.70099998	0.68900001	0.67900002	0.66399997
Latvia	14.21	13.8199997	13.8299999	12.0600004	11.71	10.0299997	7.03000021	6.05000019	7.73999977	17.5100002	19.4799995	16.2099991	15.0500002	11.8699999	10.8500004
Libya	19.8069992	19.3139992	19.2910004	20.3299999	19.5170002	19.993	19.4309998	19.2950001	18.8710003	18.2830009	18.6159992	15.7930002	19.0300007	18.7409992	18.4880009
Lithuania	15.9300003	16.8400002	13.0100002	12.8699999	10.6800003	8.31999969	5.78000021	4.25	5.82999992	13.79	17.8099995	15.3900003	13.3599997	11.7700005	10.6999998
Luxembourg	2.3499999	1.79999995	2.61999989	3.68000007	5.11000013	4.48999977	4.73000002	4.07000017	5.05999994	5.11999989	4.36000013	4.9000001	5.13999987	5.8499999	5.8499999
Macedonia	32.2000008	30.5200005	31.9400005	36.6899986	37.1599998	37.25	36.0299988	34.9300003	33.7599983	32.1800003	32.0200005	31.3799992	31.0200005	29	28.0300007
Malawi	7.67000008	7.62699986	7.71899986	7.82200003	7.83199978	7.80000019	7.5999999	7.4749999	7.19700003	6.9749999	6.70900011	6.4289999	6.13399982	5.94999981	5.94299984
Malaysia	3	3.52999997	3.47000003	3.6099999	3.53999996	3.52999997	3.32999992	3.23000002	3.33999991	3.69000006	3.25	3.08999991	3.01999998	3.1099999	2.86999989
Malta	6.32000017	7.11000013	6.9000001	7.48999977	7.32000017	6.92000008	6.80000019	6.46999979	5.98000002	6.88999987	6.8499999	6.38000011	6.30999994	6.38999987	5.80000019
Mauritania	10.592	10.6149998	10.5170002	10.618	10.5509996	10.5830002	10.5959997	10.2919998	10.1820002	10.066	10.177	10.1219997	10.1000004	10.0749998	10.0240002
Mauritius	7.33900023	6.80000019	7.19999981	7.69999981	8.48999977	9.61999989	9.14000034	8.52999973	7.21999979	7.48999977	7.69000006	7.90999985	8.14999962	8	7.71999979
Mexico	2.55999994	2.53999996	2.86999989	2.96000004	3.66000009	3.55999994	3.56999993	3.6500001	3.9000001	5.38000011	5.32999992	5.19000006	4.92000008	4.94000006	4.82999992
Mongolia	4.5999999	4.5999999	5.80700016	6.80000019	3.5999999	3.29999995	3.20000005	7.19999981	5.55999994	5.86000013	6.55000019	4.76999998	3.9000001	4.23000002	4.80000019
Morocco	13.5799999	12.46	11.5900002	11.9200001	10.8299999	11.0100002	9.67000008	9.56000042	9.56999969	9.10000038	9.06000042	8.90999985	8.98999977	9.22999954	9.69999981
Mozambique	21.8789997	21.8530006	21.6989994	21.566	21.6359997	21.7070007	21.7749996	21.8250008	21.9090004	22.0189991	22.1660004	22.3430004	22.5499992	23.2679996	25.2999992
Myanmar	0.89200002	0.88300002	0.87599999	0.87	0.861	0.85100001	0.83899999	0.82599998	0.79699999	0.792	0.78500003	0.78200001	0.78100002	0.77899998	0.77499998
Nepal	1.76199996	1.70500004	1.704	1.597	1.52400005	1.47800004	1.42400002	1.36800003	1.34000003	1.74399996	2.11999989	2.53299999	2.89199996	3.29999995	3
Netherlands	2.73000002	2.11999989	2.54999995	3.58999991	4.6500001	4.71999979	3.9000001	3.18000007	2.75	3.41000009	4.44999981	4.98000002	5.82000017	7.23999977	7.42000008
Oman	4.28000021	4.31500006	4.3670001	4.34899998	4.28599977	4.23500013	4.23000002	4.23099995	4.1420002	4.079	3.97799993	3.97399998	3.773	3.65100002	3.49399996
Pakistan	7.15999985	7.82000017	7.82999992	8.27000046	7.4000001	7.69000006	6.09000015	5.0999999	4.98000002	5.46000004	0.64999998	0.80000001	1.84099996	2.95000005	1.83000004
Paraguay	7.61000013	7.5999999	9.39000034	6.80999994	6.51000023	4.82000017	5.28000021	4.71000004	4.42000008	5.46000004	4.57000017	4.67000008	4.09000015	4.38000011	5.03000021
Peru	5.7579999	6.07800007	5.80000019	4.78999996	4.9000001	4.86000013	4.26000023	4.19000006	4.05999994	3.9000001	3.48000002	3.44000006	3.1099999	3.24000001	2.96000004
Philippines	3.727	3.70000005	3.65700006	3.52999997	3.54999995	3.79999995	4.05000019	3.43000007	3.72000003	3.8599999	3.6099999	3.58999991	3.5	3.5	3.5999999
Poland	16.3099995	18.3700008	19.8899994	19.3700008	19.0699997	17.75	13.8400002	9.60000038	7.11999989	8.17000008	9.64000034	9.63000011	10.0900002	10.3299999	8.98999977
Portugal	3.81999993	3.82999992	4.5	6.13000111	6.32000017	7.57999992	7.6500001	7.96000004	7.55000019	9.43000031	10.7700005	12.6800003	15.5299997	16.1800003	13.8900003
Qatar	3.67499995	3.91000009	3.30299997	2.69499993	1.48000002	1.17499995	0.87	0.51999998	0.31	0.31	0.44999999	0.56	0.47999999	0.27000001	0.19
Romania	6.96999979	6.55999994	8.10999966	6.94999981	7.71999979	7.17000008	7.26999998	6.40999985	5.78999996	6.86000013	6.96000004	7.17999983	6.78999996	7.0999999	6.80000019
Russian Federation	10.5799999	8.97999954	7.92000008	8.22999954	7.78000021	7.17000008	7.15999985	6.0999999	6.32000017	8.42000008	7.36999989	6.53999996	5.44000006	5.46000004	5.15999985
Saudi Arabia	4.57000017	4.61999989	5.26999998	5.55999994	5.82000017	6.05000019	6.25	5.73000002	5.07999992	5.38000011	5.55000019	5.76999998	5.51999998	5.57000017	5.71999979
Serbia	12.6000004	12.8000002	13.8000002	15.1999998	18.5	20.8500004	20.8500004	18.0599995	13.6300001	16.1000004	19.2199993	22.9699993	24	22.1499996	19.2199993
Singapore	3.70000005	3.75999999	5.6500001	5.92999983	5.84000015	5.59000015	4.48000002	3.9000001	3.96000004	4.38000011	3.17000008	2.96000004	2.88000011	2.78999996	2.79999995
Slovak Republic	19.0599995	19.3799992	18.7199993	17.1200008	18.6000004	16.2600002	13.3699999	11.1400003	9.51000023	12.0299997	14.3800001	13.6199999	13.96	14.2200003	13.1800003
Slovenia	6.92000008	5.67999983	5.92000008	6.48000002	6.01000023	6.51000023	5.94999981	4.82000017	4.36999989	5.86000013	7.23999977	8.17000008	8.84000015	10.1000004	9.67000008
South Africa	23.2700005	25.3700008	27.1800003	27.1200008	24.6700001	23.8400002	22.6200008	22.3299999	22.4300003	23.5400009	24.6900005	24.6499996	24.7299995	24.5699997	24.8999996
Spain	13.79	10.3500004	11.1499996	11.2799997	11.0900002	9.14999962	8.44999981	8.22999954	11.25	17.8600006	19.8600006	21.3899994	24.7900009	26.0900002	24.4400005
Sri Lanka	7.73999977	7.9000001	8.76000023	8.22000027	8.38000011	7.67000008	6.5	5.96999979	5.21999979	5.8499999	4.94000006	4.11000013	3.88000011	4.44000006	4.4000001
Suriname	12.7959995	10.8789997	10.7519999	9.74600029	9.48999977	9.8039999	9.33600044	9.19699955	9.10299969	9.02000046	7.55999994	6.92799997	6.28900003	4.84000015	6.94000006
Sweden	5.46999979	3.98000002	3.99000001	4.88000011	5.51999998	7.67000008	7.05000019	6.11999989	6.17999983	8.30000019	8.57999992	7.76999998	7.96000004	8.01000023	7.92000008
Switzerland	2.67000008	2.49000001	2.92000008	4.11999989	4.32000017	4.44000006	4	3.6500001	3.3499999	4.11999989	4.80999994	4.49999985	4.48000002	4.75	4.82999992
Syrian Arab Republic	9.61499977	11.6300001	11.6800003	10.2799997	9.75300026	9.22500038	8.17000008	8.42000008	10.9200001	8.14000034	8.60999966	14.8999996	14.7650003	14.6590004	14.4799995
Tajikistan	11.3079996	11.0749998	11.4610004	11.4090004	11.3739996	11.1929998	11.1239996	11.2060003	11.1260004	11.5	11.7209997	11.158	10.75	10.6059999	10.4729996
Thailand	2.3900001	2.5999999	1.82000005	1.53999996	1.50999999	1.35000002	1.22000003	1.17999995	1.17999995	1.49000001	0.62	0.66000003	0.57999998	0.49000001	0.57999998
Trinidad and Tobago	12.1000004	10.8800001	10.3900003	10.4799995	8.32999992	7.94999981	6.26999998	5.53999996	4.63000011	5.28000021	5.92999983	4.65999985	5.03999996	3.58999991	3.30999994
Tunisia	15.6999998	15.1000004	15.3000002	14.5100002	14.2399998	12.8699999	12.5100002	12.3599997	12.4399996	13.29	13.0500002	18.3299999	17.6299992	15.9300003	15.0579996
Turkey	6.48999977	8.38000011	10.3599997	10.54	10.8400002	10.6400003	8.72000027	8.86999989	9.71000004	12.5500002	10.6599998	8.80000019	8.14999962	8.72999954	9.88000011
Ukraine	11.6300001	10.9499998	9.63000011	9.06000042	8.59000015	7.17999983	6.80999994	6.3499999	6.36000013	8.84000015	8.10000038	7.86000013	7.53000021	7.17000008	9.27000046
United Kingdom	5.55999994	4.69999981	5.03999996	4.80999994	4.59000015	4.75	5.3499999	5.26000023	5.61999989	7.53999996	7.78999996	8.03999996	7.88999987	7.53000021	6.11000013
United States	3.99000001	4.73000002	5.78000021	5.98999977	5.53000021	5.07999992	4.61999989	4.61999989	5.78000021	9.25	9.63000011	8.94999981	8.06999969	7.38000011	6.17000008
Uruguay	13.3299999	14.8999996	16.9099998	16.3500004	12.8809996	12.1999998	10.5600004	9.14999962	7.69999981	7.30000019	7.15999985	6.30999994	6.44999981	6.44000006	6.55000019
Venezuela	13.3000002	12.7799997	16.1700001	16.7800007	13.9899998	11.4799995	9.32999992	7.46999979	6.8499999	8.05000019	8.44999981	7.84000015	7.40999985	7.53999996	6.94999981

Gross fixed capital formation (% of GDP)

FIXED CAPIT.	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014
Afghanistan			12.3	16.8	18.8	21.6	23.4	19.9	18.9	17.9	17.9	16.6	16.8	17.2	18.1
Albania	31.7	38.4	37.9	40.5	37.2	37.0	39.0	38.7	33.9	32.7	28.4	29.4	26.5	26.1	24.2
Argentina	16.2	14.2	12.0	15.1	15.9	17.4	18.3	19.5	19.0	15.6	16.6	17.2	15.9	16.3	16.0
Armenia	18.4	17.7	21.1	23.0	23.9	29.8	35.5	36.9	39.8	36.4	33.4	26.1	23.6	21.2	20.0
Australia	26.0	23.3	24.4	26.1	26.7	27.1	27.9	27.4	28.2	27.6	27.0	26.0	27.3	27.8	26.8
Austria	25.6	24.8	23.5	24.1	23.6	23.1	22.6	22.9	23.3	22.4	21.6	22.5	22.6	23.0	22.6
Bangladesh	23.8	24.2	24.3	24.7	25.0	25.8	26.1	26.2	26.2	26.2	26.2	27.4	28.3	28.4	28.6
Belarus	25.2	22.7	22.0	23.7	25.3	26.5	29.7	31.4	33.3	35.9	38.8	37.7	33.4	37.2	33.2
Belgium	22.5	22.4	20.7	20.4	21.4	22.2	22.3	23.2	24.0	22.6	21.8	22.6	22.6	22.2	23.0
Bolivia	17.9	13.9	15.6	12.7	11.7	13.0	14.3	16.1	17.2	16.5	16.6	19.0	18.4	19.1	21.0
Bosnia and Herzegovina	20.6	19.1	18.6	18.8	17.4	27.1	22.6	22.3	24.1	19.8	17.4	18.5	18.6	18.0	19.5
Brazil	18.3	18.4	17.9	16.6	17.3	17.1	17.2	18.0	19.4	19.1	20.5	20.6	20.7	20.9	19.9
Bulgaria	16.8	19.4	19.1	20.0	21.1	25.9	27.6	28.3	33.0	27.9	22.2	20.9	21.3	21.1	21.1
Burundi	2.8	4.5	3.9	7.9	10.3	22.4	22.0	23.6	26.7	23.2	30.5	27.6	28.4	28.7	27.8
Cambodia	18.2	15.8	19.0	18.7	18.3	18.9	19.3	19.8	17.3	20.1	16.2	16.0	17.4	18.9	21.0
Canada	19.7	20.2	20.0	20.1	20.9	21.9	23.0	23.4	23.5	22.4	23.5	23.6	24.6	24.2	24.4
Chad	20.9	36.6	59.7	48.6	22.7	20.6	22.0	21.4	21.3	29.4	33.6	28.3	31.1	28.6	33.2
Chile	21.0	21.6	21.3	21.2	20.3	22.2	19.9	20.7	25.5	22.5	21.6	23.1	24.9	24.8	23.8
China	33.4	34.3	36.0	39.3	40.6	40.5	39.7	38.9	40.1	44.9	45.0	44.9	45.3	45.5	45.0
Colombia	14.1	15.4	16.7	18.1	18.8	19.7	21.6	22.5	23.1	22.7	21.9	23.6	23.7	24.3	25.8
Congo	14.4	6.7	7.4	9.4	12.1	11.7	14.6	13.6	10.7	14.5	28.7	24.8	14.2	21.7	23.1
Costa Rica	19.8	19.9	19.9	19.9	20.0	20.0	20.4	22.5	23.9	21.1	19.7	19.7	20.6	19.5	19.5
Cyprus	20.1	19.0	20.9	20.3	20.6	21.5	25.1	25.5	27.2	23.4	22.3	18.9	15.1	14.1	11.7
Czech Republic	30.6	30.5	29.2	28.7	28.1	28.2	28.0	29.5	29.0	27.1	26.9	26.5	25.9	25.1	25.1
Denmark	21.5	21.3	20.6	20.7	20.7	21.2	23.3	23.5	22.9	20.2	18.1	18.2	18.8	19.1	19.2
Dominican Republic	25.0	23.6	24.8	20.1	20.4	22.6	25.9	27.0	28.1	23.2	25.2	24.7	24.1	22.3	23.1
Ecuador	19.0	19.1	20.7	19.2	19.7	20.4	20.9	20.8	22.4	22.8	24.6	25.8	27.0	27.6	27.2
Egypt	18.9	17.7	17.8	16.3	16.4	17.9	18.7	20.9	22.3	18.9	19.2	16.7	14.7	13.0	12.4
El Salvador	17.7	17.2	17.5	17.7	16.7	16.3	16.9	18.5	18.7	15.1	14.8	16.3	16.6	17.5	15.6
Eritrea	22.0	35.3	29.5	26.5	20.3	20.3	13.7	12.7	12.7	9.3	9.3	10.0			
Fiji	15.4	15.3	19.2	21.4	18.5	21.0	20.2	17.8	21.1			18.1	14.9	26.0	17.4
Finland	23.1	22.9	21.6	21.8	22.3	23.0	22.8	24.2	24.4	22.8	21.9	22.2	22.3	21.2	20.6
France	21.5	21.5	21.0	21.0	21.4	21.8	22.5	23.2	23.6	22.1	22.1	22.4	22.5	22.0	21.8
Gabon	21.9	22.7	25.1	22.6	21.5	21.0	23.2	23.6	25.0	29.5	31.4	28.7	27.7	29.9	35.7
Germany	23.0	21.7	20.0	19.5	19.2	19.1	19.8	20.1	20.3	19.2	19.4	20.3	20.1	19.7	20.0
Ghana	23.1	27.1	18.8	22.9	28.4	29.0	23.0	15.4	16.5	15.5	11.8	12.0	16.1	12.6	17.9
Greece	24.6	24.7	23.6	25.3	24.4	20.8	23.7	26.0	23.8	20.8	17.6	15.3	12.6	12.2	11.5
Guatemala	16.1	18.3	19.3	18.7	18.3	18.3	20.1	19.6	17.9	15.1	14.8	14.8	14.8	14.3	13.9
Haiti	27.3	25.9	25.1	30.7	27.3	27.4	29.4	30.5	28.8	27.5	25.4	27.9	35.6	36.7	38.2
Honduras	25.8	23.9	21.5	22.9	27.1	24.9	27.3	32.2	33.6	22.0	21.6	24.4	24.4	23.6	22.3
Hong Kong	26.5	25.8	22.7	21.7	21.8	21.4	22.4	20.6	20.5	20.5	21.8	23.5	25.4	24.1	23.5
Hungary	25.4	24.8	24.6	23.6	24.0	23.8	23.5	23.6	23.2	22.7	20.2	19.7	19.3	20.9	22.2
Iceland	24.2	23.0	19.6	21.3	24.7	29.5	35.7	29.3	25.2	14.9	13.9	15.3	15.9	15.6	17.2
India	24.6	27.1	25.6	26.5	31.0	32.8	33.8	35.6	35.0	34.3	33.4	34.3	33.4	31.3	30.1
Indonesia	19.9	19.7	19.4	19.5	22.4	23.6	24.1	24.9	27.7	31.1	31.0	31.3	32.7	32.0	32.5
Iraq	2.9	6.1	5.4	10.7	5.4	13.8	17.7	6.8	14.8	10.3	16.2	13.0	15.0	26.9	32.7
Ireland	23.8	24.0	23.6	24.9	27.0	29.8	31.0	28.7	24.8	21.1	17.6	16.8	19.7	18.6	20.8
Italy	20.4	20.5	21.2	20.7	20.8	21.2	21.5	21.6	21.2	20.0	19.9	19.7	18.4	17.2	16.7
Japan	27.4	26.5	25.0	24.5	24.1	24.6	24.7	24.1	24.0	22.4	21.3	21.9	22.4	23.3	24.0
Jordan	21.1	19.4	18.9	20.6	24.8	30.6	25.5	27.5	27.9	25.2	23.0	24.5	26.0	27.2	27.2
Kazakhstan	17.3	23.7	24.0	23.0	25.1	28.0	30.2	30.0	26.8	27.8	24.3	21.5	22.8	21.9	21.6
Kenya	16.7	18.2	17.2	15.8	16.3	18.7	19.4	20.0	18.9	18.5	20.4	20.4	21.2	20.6	22.9
Korea	31.6	30.7	30.4	31.3	31.2	30.9	30.7	30.5	31.4	31.3	30.5	30.2	29.6	29.3	29.2
Kuwait	10.7	14.3	17.1	16.6	15.0	14.6	15.9	20.5	17.6	18.0					
Kyrgyz Republic	18.3	17.0	16.5	13.8	14.8	16.2	23.4	25.0	27.2	28.6	28.1	24.0	31.7	29.9	32.8
Laos	13.4	13.5	29.0	27.8	31.8	34.1	30.1	32.3	31.7	33.9	27.5	28.1	32.5	30.6	29.8
Latvia	25.2	27.4	24.6	24.8	28.9	31.3	34.2	36.4	32.1	22.5	19.4	22.2	25.4	23.2	22.6
Libya	11.6	10.5	12.9	8.9	14.0	15.2	20.7	25.7	29.8						
Lithuania	19.1	20.5	20.7	21.5	22.9	23.4	25.9	28.6	26.0	17.9	16.9	18.5	17.4	18.5	18.9
Luxembourg	20.2	21.5	21.0	20.4	20.3	19.1	17.6	18.4	20.3	18.4	17.6	19.2	20.2	19.5	19.0
Macedonia	20.4	22.1	21.4	20.2	21.3	19.2	20.2	22.7	25.8	24.6	23.1	23.5	23.4	23.7	23.4
Malawi	12.3	13.8	10.3	10.7	12.3	15.2	17.7	21.2	21.5	22.6	21.0	10.6	12.0	12.7	12.0
Malaysia	25.3	25.1	23.5	22.4	21.0	22.3	22.0	22.4	20.6	22.0	22.4	22.2	25.4	26.5	26.0
Malta	22.5	20.4	16.5	20.8	20.6	22.0	22.0	22.4	19.6	18.2	21.4	18.0	18.1	17.5	17.4
Mauritania	16.2	17.7	16.5	23.6	44.4	59.0	27.4	27.6	35.1	29.9	36.5	37.7	50.3	55.0	54.3
Mauritius	22.9	22.7	21.8	22.7	21.6	21.4	23.2	24.0	23.8	25.5	24.2	23.5	22.6	20.8	18.9
Mexico	21.5	19.9	19.3	19.8	20.5	20.7	21.5	21.9	23.2	22.1	21.6	22.3	22.8	21.3	21.0
Mongolia	25.2	21.5	22.1	29.1	27.8	27.9	33.3	35.1	36.2	28.9	34.5	48.4	45.1	39.3	28.6
Morocco	27.0	25.9	26.3	25.9	27.3	28.5	29.2	32.2	34.4	31.7	30.7	31.5	32.6	30.8	29.7
Mozambique	22.1	14.2	20.8	15.4	12.9	13.2	12.5	11.3	15.2	14.1	17.9	21.5	35.1	39.4	43.1
Myanmar									15.7	19.0	22.9	29.2	29.9	31.4	35.2
Nepal	19.3	19.2	19.6	19.9	20.3	19.9	20.7	21.1	21.9	21.4	22.2	21.4	20.8	22.6	23.5
Netherlands	22.9	22.5	21.3	20.9	20.5	20.6	21.3	21.8	22.3	21.3	19.7	20.3	18.9	17.9	18.0
Netherlands Antilles															
Nicaragua							24.4	25.6	26.9	20.3	21.2	24.6	28.1	28.3	27.3
Norway	19.8	19.5	19.4	18.9	19.6	20.3	20.9	23.5	22.6	23.2	20.7	21.5	22.4	23.5	23.8
Oman	15.5	17.1	18.6	21.9	24.4	22.0	23.9	28.9	30.6	33.3	27.0	24.2	27.2	29.1	28.8
Pakistan	15.9	15.7	15.3	15.1	15.0	17.5	17.7	17.2	17.6	15.9	14.2	12.5	13.5	13.4	13.0
Paraguay	14.7	14.6	13.9	16.0	16.1	16.6	16.6	15.2	16.0	13.5	15.9	16.4	15.1	15.1	15.9
Peru	19.7	18.0	16.7	16.9	16.8	17.1	17.8	20.0	23.4	22.1	23.5	23.3	25.0	25.3	24.5
Philippines	22.1	20.8	20.6	20.7	20.3	19.9	20.1	19.9	19.7	19.0	20.5	18.7	19.6	20.6	20.7
Poland	23.7	20.5	18.4	18.2	18.3	18.9	20.4	22.5	23.1	21.4	20.3	20.7	19.8	18.8	19.7
Portugal	28.0	27.4	25.8	23.7	23.4	23.1	22.5	22.5	22.8	21.1	20.5	18.4	15.8	14.8	15.0
Qatar															
Romania	19.3	20.9	21.7	22.3	22.4	24.3	26.4	35.1	37.4	25.4	26.0	27.1	27.3	24.7	24.3
Russian Federation	16.9	18.9	17.9	18.4	18.4	17.8	18.5	21.0	22.3	22.0	21.6	21.5	21.5	21.8	21.2
Saudi Arabia	17.4	18.3	18.0	18.3	19.2	19.3	20.5	23.7	22.8	25.8	24.4	22.6	22.3	23.7	25.2
Serbia	14.1	12.9	16.2	18.3	20.5	20.1	22.3	25.3	24.9	19.7	18.6	18.4	21.2	17.2	16.7
Singapore	32.0	31.1	27.2	25.3	24.5	23.1	23.1	24.5	28.3	29.3	26.1	25.5	26.7	27.9	28.4
Slovak Republic	27.3	30.2	28.9	25.8	25.0	27.3	27.3	26.8	25.5	21.7	22.1	24.0	21.2	20.7	20.7
Slovenia	27.3	26.4	24.7	25.2	26.2	26.6	27.8	28.8	29.6	24.3	21.3	20.2	19.2	19.8	19.4
South Africa	15.6	15.5	15.2	16.0	16.5	17.2	18.9	20.6	23.5	21.5	19.3	19.1	19.2	20.4	20.4
Spain	26.1	26.2	26.6	27.7	28.5	29.9	31.1	31.0	29.2	24.3	23.0	21.5	19.8	18.8	19.3
Sri Lanka	28.0	22.0	20.1	20.0	22.6	23.4	24.9	24.7	25.3	23.7	23.7	26.3	29.0	29.3	27.7
Suriname	12.4	28.9	22.0	22.8	22.4	24.9	18.4	42.3	45.5	47.1	37.5	53.2	57.8	62.9	70.7
Sweden	22.1	22.5	21.7	21.3	21.6	22.1	23.0	23.9	24.3	22.3	22.3	22.7	22.6	22.3	23.1
Switzerland	25.3	24.6	24.5	23.9	24.4	24.4	24.3	24.4	24.1	22.7	22.8	23.4	23.8	23.6	23.9
Syrian Arab Republic	17.3	20.3	20.3	23.2	21.7	23.0	21.8	20.4							
Taiwan															
Tajikistan	7.4	9.0	6.3	8.0	10.4	11.1	15.5	23.2	24.5	26.3	24.5	28.6	21.7	24.0	25.8
Thailand	21.6	22.5	21.9	23.0	24.9	27.7	26.8	25.5	26.4	23.1	24.0	25.8	27.0	25.4	24.6
Trinidad and Tobago															
Tunisia	25.2	25.3	24.8	22.9	22.1	21.3	22.6	23.0	23.6	24.3	24.6	21.9	22.5	21.9	20.3
Turkey	22.3	18.1	19.6	20.8	25.4	26.7	28.7	28.1	26.8	22.4	24.9	28.1	27.3	28.5	28.9
Ukraine	19.7	19.7	19.2	20.6	22.5	22.0	24.6	27.1	26.4	18.4	17.0	17.6	19.0	16.9	14.1
United Arab Emirates		21.0	21.1	20.8	18.7	18.4	17.6	23.6	22.4	28.9	24.7	21.5	20.8	18.2	19.6
United Kingdom	17.8	17.3	17.3	16.8	16.7	17.0	17.2	17.7	17.0	15.3	15.3	15.4	15.6	15.8	16.4
United States	23.0	22.4	21.4	21.5	22.0	22.8	22.8	22.1	21.0	18.5	18.0	18.3	19.0	19.2	19.7
Uruguay	14.3	13.7	12.4	12.5	14.4	16.5	18.2	18.6	20.6	18.7	19.1	19.1	22.2	21.8	21.4
Venezuela	21.0	24.0	21.9	15.5	18.3	20.3	22.3	25.0	22.1	23.5	18.7	17.7	20.3	22.2	21.6

Exchange rate

US exchange local currency	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014
Afghanistan			0.373	0.383	0.398	0.408	0.417	0.429	0.437	0.453	0.463	0.471	0.482	0.487	0.491
Albania	143.70942	143.48483	140.15452	121.86325	102.78005	99.870254	98.103377	90.427894	83.894604	94.97812	103.93644	100.89496	108.18465	105.66867	105.47923
Argentina	0.9996933	0.9995848	3.2887517	2.953025	2.9477311	2.9256119	98.103377	3.1158817	3.1605007	3.7310246	3.912426	4.1274622	4.5446862	5.4716573	8.1153495
Australia	1.726291	1.934431	1.840401	1.540934	1.360461	1.312657	98.103377	1.194885	1.196204	1.279068	1.089508	0.969524	0.965948	1.036882	1.109239
Austria	1.085898	1.117515	1.060945	0.885756	0.804856	0.805111	98.103377	0.730754	0.683499	0.718958	0.755868	0.719207	0.778848	0.753234	0.753941
Bangladesh	52.141667	55.806667	57.888	58.15004	59.512658	64.327475	68.933233	68.874875	68.598275	69.039067	69.649292	74.1524	81.862658	78.103235	77.641408
Belarus	0.075017	0.139825	0.179642	0.206125	0.215992	0.2153	0.214408	0.214625	0.213767	0.280933	0.298425	0.526042	0.8335	0.892333	1.035
Belgium	1.085898	1.117515	1.060945	0.885756	0.804856	0.805111	0.797168	0.730754	0.683499	0.718958	0.755868	0.719207	0.778848	0.753234	0.753941
Bolivia	6.183542	6.606917	7.17	7.659167	7.936267	8.066063	8.011617	7.851245	7.238321	7.02	7.016667	6.936963	6.91	6.91	6.91
Brazil	1.8303596	2.3547909	2.924356	3.0758586	2.9263911	2.4340831	2.1771174	1.9478138	1.8350906	1.9956591	1.7593557	1.6739572	1.954152	2.1586202	2.3535351
Bulgaria	2.12035	2.177069	2.068047	1.726387	1.572034	1.574633	1.559103	1.429208	1.336788	1.406138	1.478327	1.406625	1.52327	1.473176	1.474557
Burundi	720.67333	830.35333	930.74917	1082.62	1100.9	1081.5772	1028.6836	1081.8697	1185.6908	1230.1792	1230.7483	1261.0733	1442.5056	1555.0908	1546.6867
Cambodia	3840.75	3916.3333	3912.0833	3973.3333	4016.25	4092.5	4103.25	4056.1667	4054.1667	4139.3333	4184.9167	4058.5	4033	4027.25	4037.5
Canada	1.485217	1.548034	1.569864	1.401231	1.301298	1.212034	1.134173	1.073623	1.065847	1.140266	1.029955	0.989261	0.999739	1.030191	1.104261
Chad	711.97627	733.03851	696.9882	581.20031	528.28481	527.46814	522.89011	479.26678	447.80526	472.18629	495.27702	471.86611	510.52714	494.04004	494.41495
Chile	538.87113	634.4285	689.24245	691.53556	609.54996	559.86278	530.26305	522.69069	521.78956	559.66732	510.37664	483.36405	486.74656	494.99516	570.0059
China	8.277083	8.276999	8.276999	8.276998	8.277741	8.192424	7.973662	7.60629	6.948459	6.831128	6.767807	6.462405	6.309354	6.148014	6.161199
Colombia	2088.1402	2300.1047	2506.5472	2875.9078	2628.474	2321.4948	2358.9591	2076.2398	1967.1123	2153.2977	1898.6837	1846.9671	1797.7858	1869.0989	2000.3268
Costa Rica	308.18667	328.87083	359.81753	398.66222	437.935	477.78674	511.30182	516.61739	526.23551	573.28796	525.8292	505.66424	502.90146	499.76683	538.3172
Cyprus	1.064691	1.099566	1.042972	0.883859	0.800199	0.793276	0.784195	0.727374	0.683499	0.718958	0.755868	0.719207	0.778848	0.753234	0.753941
Czech Republic	38.638871	38.062985	32.702346	28.203811	25.676027	23.970144	22.598005	20.304025	17.063634	19.034531	19.11265	17.692511	19.590807	19.565032	20.762861
Denmark	8.094245	8.327726	7.883482	6.581706	5.988053	5.999742	5.946202	5.444543	5.096	5.353661	5.629127	5.358432	5.797469	5.617541	5.620225
Dominican Republic	16.181458	16.690962	17.593044	29.37	41.930315	30.282808	33.300035	33.171871	34.529361	35.971866	36.821292	38.087585	39.320301	41.794503	43.549673
Ecuador															
Egypt	3.47205	3.973	4.499667	5.850875	6.196242	5.778833	5.733167	5.635433	5.4325	5.544553	5.621943	5.932828	6.056058	6.870325	7.077609
El Salvador	8.755	8.75	8.75	8.75	8.75	8.75	8.75	8.75	8.75	8.75	8.75	8.75	8.75	8.75	8.75
Fiji	2.128625	2.276633	2.186692	1.8956	1.73295	1.690967	1.731183	1.610283	1.593708	1.955708	1.918308	1.793194	1.789894	1.841388	1.88735
Finland	1.085898	1.117515	1.060945	0.885756	0.804856	0.805111	0.797168	0.730754	0.683499	0.718958	0.755868	0.719207	0.778848	0.753234	0.753941
France	1.085898	1.117515	1.060945	0.885756	0.804856	0.805111	0.797168	0.730754	0.683499	0.718958	0.755868	0.719207	0.778848	0.753234	0.753941
Gabon	711.97627	733.03851	696.9882	581.20031	528.28481	527.46814	522.89011	479.26678	447.80526	472.18629	495.27702	471.86611	510.52714	494.04004	494.41495
Germany	1.085898	1.117515	1.060945	0.885756	0.804856	0.805111	0.797168	0.730754	0.683499	0.718958	0.755868	0.719207	0.778848	0.753234	0.753941
Ghana	0.544919	0.716305	0.792417	0.866764	0.899495	0.906279	0.916452	0.935248	1.057858	1.4088	1.431025	1.51185	1.795817	1.95405	2.899775
Greece	1.073196	1.117515	1.060945	0.885756	0.804856	0.805111	0.797168	0.730754	0.683499	0.718958	0.755868	0.719207	0.778848	0.753234	0.753941
Guatemala	7.763159	7.858593	7.821645	7.940847	7.946496	7.633944	7.602631	7.673304	7.560028	8.161555	8.057771	7.785418	7.833605	7.856814	7.732233
Haiti	21.170667	24.429083	29.250483	42.366758	38.352033	40.44855	40.408517	36.861417	39.107592	41.197608	39.7974	40.522822	41.949723	43.462783	45.215981
Honduras	14.840625	15.476825	16.437058	17.352492	18.209725	18.832342	18.895208	18.8951	18.903758	18.8951	18.8951	18.917142	19.50225	20.353779	20.987158
Hungary	282.53442	286.59072	257.81798	224.41098	202.56746	199.76726	210.58307	183.66614	172.26056	201.94995	208.37714	201.18228	225.25693	223.61405	232.7687
Iceland	78.8718	97.762863	91.456923	76.756194	70.120797	62.85788	69.776546	64.016048	88.073936	123.59426	122.04215	116.06857	125.0498	122.23048	116.74843
India	44.948154	47.172949	48.575595	46.538938	45.271779	44.077814	45.260794	41.225881	43.447697	48.356272	45.724512	46.676962	53.434264	58.638576	61.02262
Indonesia	8401.5326	10252.861	9315.1309	8570.0701	8945.3394	9714.8456	9170.4884	9138.8837	9682.6116	10397.551	9082.7595	8775.5917	9377.9634	10422.339	11864.43
Iraq	2002.4034	2002.4049	2002.3727	2133.7778	1453.4167	1472	1467.4167	1254.5672	1193.0833	1170	1170	1170	1166.1667	1166	1166
Ireland	1.085898	1.117515	1.060945	0.885756	0.804856	0.805111	0.797168	0.730754	0.683499	0.718958	0.755868	0.719207	0.778848	0.753234	0.753941
Italy	1.085898	1.117515	1.060945	0.885756	0.804856	0.805111	0.797168	0.730754	0.683499	0.718958	0.755868	0.719207	0.778848	0.753234	0.753941
Japan	107.74558	121.40891	125.13793	115.92889	108.15835	110.18138	116.30695	117.77422	103.44363	93.542562	87.707535	79.701694	79.75303	97.617765	105.81779
Jordan	0.709	0.708983	0.709	0.709	0.709	0.709	0.709	0.709	0.709667	0.71	0.71	0.71	0.71	0.71	0.71
Kazakhstan	142.13333	146.73583	153.27917	149.57583	136.035	132.88	124.28027	122.47548	120.29434	147.66603	147.34674	146.61814	149.07475	152.13598	179.3049
Kenya	76.175542	78.563195	78.749142	75.935569	79.173876	75.554109	72.100835	67.317638	69.17532	77.352012	79.233152	88.81077	84.529602	86.122879	87.922164
Korea	1130.1484	1289.6198	1245.9603	1191.0178	1144.742	1024.0167	955.00902	929.09618	1101.9559	1275.9898	1156.6765	1108.1337	1127.0897	1095.1138	1053.0471
Kuwait	0.306844	0.30655	0.303747	0.29801	0.2947	0.292	0.290147	0.283719	0.268834	0.287834	0.286846	0.275988	0.279931	0.283649	0.284699
Kyrgyz Republic	47.703833	48.377958	46.937067	43.648375	42.649942	41.011821	40.1529	37.316257	36.574592	42.904108	45.964261	46.143901	47.004479	48.438059	53.654058
Laos	7887.6433	8954.5833	10056.333	10569.038	10585.375	10655.167	10159.939	9603.1603	8744.2241	8516.0526	8258.7701	8030.055	8007.7575	7860.1375	8048.9603
Latvia	0.862488	0.890021	0.875652	0.806672	0.76139	0.797537	0.789712	0.727902	0.683622	0.721943	0.762219	0.72266	0.772697	0.751785	0.753941
Libya	0.51219	0.605064	1.270679	1.292944	1.304966	1.308385	1.313572	1.262645	1.223562	1.253534	1.266789	1.224152	1.26166	1.271692	1.272402
Lithuania	1.158705	1.158405	1.063103	0.885744	0.80487	0.805111	0.797168	0.730754	0.683499	0.718958	0.755868	0.719207	0.778848	0.753234	0.753941
Luxembourg	1.085898	1.117515	1.060945	0.885756	0.804856	0.805111	0.797168	0.730754	0.683499	0.718958	0.755868	0.719207	0.778848	0.753234	0.753941
Macedonia	65.928024	68.09604	64.720556	54.233386	49.366957	49.339444	48.776389	44.709476	41.799486	44.094327	46.509553	44.248571	47.885484	46.398421	46.461647
Malawi	59.543808	72.197333	76.686608	97.432475	108.89751	118.41974	136.01354	139.95729	140.52269	141.16694	150.48666	156.51545	249.10595	364.40729	424.89581
Malaysia	3.800442	3.800242	3.800115	3.799894	3.800348	3.78702	3.66831	3.4369	3.333984	3.523168	3.217848	3.059153	3.088957	3.150645	3.272003
Malta	1.021322	1.04873	1.009681	0.878835	0.802221	0.806193	0.797168	0.730754	0.683499	0.718958	0.755868	0.719207	0.778848	0.753234	0.753941
Mauritania	238.92333	255.62917	271.73917	263.03	264.108	265.52833	268.6	258.58667	238.20333	262.36583	275.89417	281.11833	296.62	300.68167	302.725
Mauritius	26.249558	29.129258	29.962	27.839676	27.52791	29.513052	31.679483	31.334338	28.482911	31.908627	30.851561	28.57714	30.035871	30.698652	30.629687
Mexico	9.458404	9.340912	9.667216	10.793903	11.288203	10.895184	10.902305	10.928046	11.147956	13.502479	12.628714	12.438309	13.162566	12.769587	13.302096
Mongolia	1076.6667	1097.6975	1110.31	1146.5425	1185.2975	1205.2467	1179.6992	1170.4008	1165.8042	1437.795	1357.0642	1265.5158	1357.58	1523.9275	1817.9387
Morocco	10.625636	11.302975	11.020583	9.574383	8.868017	8.865008	8.795583	8.192333	7.750325	8.0571	8.417158	8.089875	8.628445	8.405504	8.406337
Mozambique	15.22725	20.703641	23.677957	23.782268	22.581343	23.060965	25.400779	25.840341	24.300642	27.5183	33.960099	29.0676	28.372984	30.104111	31.352688
Myanmar	6.516725	6.748908	6.642083	6.138925	5.805833	5.818167	5.842942	5.616883	5.44145	5.576367	5.634883	5.444108	640.65342	933.57046	984.34575
Nepal	70.578403	75.086353	77.984816	76.045863	73.592938	71.350858	72.830269	65.994579	69.70832	77.397611	73.166599	74.580366	85.391179	93.570202	97.606611
Netherlands	1.085898	1.117515	1.060945	0.885756	0.804856	0.805111	0.797168	0.730754	0.683499	0.718958	0.755868	0.719207	0.778848	0.753234	0.753941
Oman	0.3845	0.3845	0.3845	0.3845	0.3845	0.3845	0.3845	0.3845	0.3845	0.3845	0.3845	0.3845	0.3845	0.3845	0.3845
Pakistan	52.759634	62.169816	59.721065	57.762205	58.151099	59.519142	60.251705	60.724946	71.482606	81.720028	85.174858	86.343743	93.279271	101.53171	100.98258
Paraguay	3486.3533	4105.925	5716.2583	6424.3392	5974.5775	6177.9583	5635.4625	5032.7167	4363.2417	4965.3917	4735.4617	4191.4163	4424.9175	4320.6742	4462.1917
Peru	3.4878227	3.5069614	3.5163717	3.4785534	3.4124522	3.296376	3.2744751	3.128629	2.9241169	3.0116972	2.8249231	2.7543603	2.6390714	2.701419	2.8385774
Philippines	44.258232	50.999845	51.612079	54.209295	56.052683	55.059023	51.287661	46.066112	44.460574	47.576188	45.079461	43.303142	42.221429	42.474315	44.401262
Poland	4.348436	4.0995	4.081242	3.891269	3.646751	3.237509	3.105295	2.767249	2.407531	3.116972	3.020692	2.966141	3.259642	3.161759	3.155146
Portugal	1.085898	1.117515	1.060945	0.885756	0.804856	0.805111	0.797168	0.730754	0.683499	0.718958	0.755868	0.719207	0.778848	0.753234	0.753941
Qatar	3.64	3.64	3.64	3.64	3.64	3.64	3.64	3.64	3.64	3.64	3.64	3.64	3.64	3.64	3.64
Romania	2.168376	2.905169	3.305151	3.320452	3.261709	2.914235	2.811302	2.436141	2.520048	3.048365	3.184526	3.050108	3.474055	3.328229	3.349944
Russian Federation	28.157818	29.203343	31.393305	30.677615	28.805804	28.300305	27.186027	25.576698	24.864452	31.743856	30.386696	29.412455	31.10157	31.872508	38.565863
Saudi Arabia	3.750636	3.750465	3.750308	3.750272	3.750252	3.750488	3.750543	3.747065	3.750944	3.750305	3.750156	3.750269	3.750273	3.750328	3.750917
Serbia	16.675318	66.417254	64.302259	57.558534	58.436796	66.888319	67.008788	58.393413	55.764104	67.473071	77.906576	73.338161	88.116906	85.173052	88.54081
Singapore	1.725018	1.79165	1.790288	1.742396	1.690222	1.664905	1.588997	1.506907	1.415133	1.453575	1.362358	1.257287	1.249759	1.251321	1.266935
Slovak Republic	1.536416	1.605843	1.503036	1.220072	1.069483	1.031554	0.985557	0.819576	0.708602	0.718958	0.755868	0.719207	0.778848	0.753234	0.753941
Slovenia	0.937042	1.016597	0.999814	0.864107	0.80299	0.804858	0.797017	0.730754	0.683499	0.718958	0.755868	0.719207	0.778848	0.753234	0.753941
South Africa	6.942312	8.585397	10.513538	7.563416	6.44643	6.374539	6.783711	7.055041	8.260564	8.418104	7.321136	7.266486	8.216184	9.658115	10.851273
Spain	1.085898	1.117515	1.060945	0.885756	0.804856	0.805111	0.797168	0.730754	0.683499	0.718958	0.755868	0.719207	0.778848	0.753234	0.753941
Sri Lanka	76.964365	89.60172	95.772749	96.541315	101.26765	100.38257	103.94028	110.61961	108.29772	114.90879	112.98992	110.46936	127.53936	129.04582	130.53632
Suriname	1.322491	2.178182	2.34675	2.601333	2.733583	2.731667	2.74375	2.745	2.745	2.745	2.745417	3.268	3.3	3.3	3.3
Sweden	9.171328	10.343176	9.719409	8.083812	7.345271	7.478023	7.379297	6.758491	6.587437	7.644609	7.206174	6.493945	6.777225	6.514909	6.863611
Switzerland	1.689859	1.687983	1.556569	1.346311	1.242587	1.246551	1.253639	1.200066	1.083274	1.085405	1.042589	0.886766	0.938684	0.927282	0.915544
Syrian Arab Republic	11.225	11.225	11.225	11.225	11.225	11.225	11.225	11.225	11.225	11.225	11.225	11.225	11.225	11.225	11.225
Tajikistan	2.07625	2.372192	2.764133	3.061367	2.970508	3.116567	3.298408	3.442483	3.430725	4.142708	4.378967	4.610183	4.737708	4.764233	4.937567
Thailand	40.203127	44.504706	42.998063	41.524664	40.272792	40.286427	37.933571	32.302477	33.028459	34.315795	31.699134	30.49221	31.085722	30.730604	32.481254
Trinidad and Tobago	6.274948	6.200081	6.211972	6.263632	6.271454	6.265185	6.27983	6.301383	6.256677	6.299164	6.347503	6.399753	6.403333	6.415124	6.384738
Tunisia	1.370683	1.438713	1.421733	1.288458	1.245467	1.297433	1.331025	1.281358	1.232142	1.350275	1.450116	1.406893	1.561564	1.625037	1.70496
Turkey	0.62467	1.2341	1.515541	1.501669	1.429385	1.348366	1.439069	1.306628	1.30454	1.554568	1.50764	1.681476	1.801055	1.906482	2.18954
Ukraine	5.444545	5.370513	5.326844	5.332662	5.318841	5.119422	5.05	5.05	5.280441	7.794704	7.936413	7.967902	7.991071	7.993	11.873948
United Kingdom	0.661358	0.694657	0.666542	0.612482	0.545951	0.550368	0.543553	0.499667	0.545067	0.640636	0.647789	0.623842	0.631273	0.639738	0.607358
United States	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
Uruguay	12.108838	13.323917	21.396234	28.202209	28.658367	24.43	24.03629	23.432831	20.960183	22.531714	20.072276	19.302632	20.32117	20.499076	23.22926
Venezuela	0.680523	0.724103	1.161194	1.61343	1.886128	2.107135	2.144597	2.1446	2.1446	2.144479	4.238012	4.289336	4.289345	6.069694	6.2842

Geographic & demographic

Geographic region

Afghanistan	Asia
Albania	Europe
Argentina	South America
Armenia	Asia
Australia	Oceania
Austria	European Union
Bangladesh	Asia
Belarus	Europe
Belgium	European Union
Bolivia	South America
Bosnia and Herzegovina	Europe
Brazil	South America
Bulgaria	European Union
Burundi	Eastern Africa
Cambodia	Asia
Canada	Northern America
Chad	Middle Africa
Chile	South America
China	Asia
Colombia	South America
Congo	Middle Africa
Costa Rica	Central America
Cyprus	European Union
Czech Republic	European Union
Denmark	European Union
Dominican Republic	The Caribbean
Ecuador	South America
Egypt	Northern Africa
El Salvador	Central America
Eritrea	Eastern Africa
Fiji	Oceania
Finland	European Union
France	European Union
Gabon	Middle Africa
Germany	European Union
Ghana	Western Africa
Greece	European Union
Guatemala	Central America
Haiti	The Caribbean
Honduras	Central America
Hong Kong	Asia
Hungary	European Union
Iceland	Europe
India	Asia
Indonesia	Asia
Iraq	Middle East
Ireland	European Union
Italy	European Union
Japan	Asia
Jordan	Middle East
Kazakhstan	Asia
Kenya	Eastern Africa
Korea	Asia
Kuwait	Middle East
Kyrgyz Republic	Asia
Laos	Asia
Latvia	European Union
Libya	Northern Africa
Lithuania	European Union
Luxembourg	European Union
Macedonia	Europe
Malawi	Eastern Africa
Malaysia	Asia
Malta	European Union
Mauritania	Western Africa
Mauritius	Eastern Africa
Mexico	Central America
Mongolia	Asia
Morocco	Northern Africa
Mozambique	Eastern Africa
Myanmar	Asia
Nepal	Asia
Netherlands	European Union
Netherlands Antilles	The Caribbean
Nicaragua	Central America
Norway	Europe
Oman	Middle East
Pakistan	Asia
Paraguay	South America
Peru	South America
Philippines	Asia
Poland	European Union
Portugal	European Union
Qatar	Middle East
Romania	European Union
Russian Federation	Europe
Saudi Arabia	Middle East
Serbia	Europe
Singapore	Asia
Slovak Republic	European Union
Slovenia	European Union
South Africa	Southern Africa
Spain	European Union
Sri Lanka	Asia
Suriname	South America
Sweden	European Union
Switzerland	Europe
Syrian Arab Republic	Middle East
Taiwan	Asia
Tajikistan	Asia
Thailand	Asia
Trinidad and Tobago	The Caribbean
Tunisia	Northern Africa
Turkey	Europe
Ukraine	Europe
United Arab Emirates	Middle East
United Kingdom	European Union
United States	Northern America
Uruguay	South America
Venezuela	South America

Land area

LAND AREA	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014
Afghanistan	652860	652860	652860	652860	652860	652860	652860	652860	652860	652860	652860	652860	652860	652860	652860
Albania	27400	27400	27400	27400	27400	27400	27400	27400	27400	27400	27400	27400	27400	27400	27400
Argentina	2736690	2736690	2736690	2736690	2736690	2736690	2736690	2736690	2736690	2736690	2736690	2736690	2736690	2736690	2736690
Armenia	28470	28470	28470	28470	28470	28470	28470	28470	28470	28470	28470	28470	28470	28470	28470
Australia	7682300	7682300	7682300	7682300	7682300	7682300	7682300	7682300	7682300	7682300	7682300	7682300	7682300	7682300	7682300
Austria	82580	82580	82580	82580	82580	82580	82580	82578	82578	82578	82571	82561	82554	82531	82523
Bangladesh	130170	130170	130170	130170	130170	130170	130170	130170	130170	130170	130170	130170	130170	130170	130170
Belarus	202840	202840	202830	202830	202810	202830	202900	202900	202900	202820	202900	202910	202910	202910	202910
Belgium	30280	30280	30280	30280	30280	30280	30280	30280	30280	30280	30280	30280	30280	30280	30280
Bolivia	1083300	1083300	1083300	1083300	1083300	1083300	1083300	1083300	1083300	1083300	1083300	1083300	1083300	1083300	1083300
Bosnia and Herzegovina	51200	51200	51200	51200	51200	51200	51200	51200	51200	51200	51200	51200	51200	51200	51200
Brazil	8358140	8358140	8358140	8358140	8358140	8358140	8358140	8358140	8358140	8358140	8358140	8358140	8358140	8358140	8358140
Bulgaria	110630	110630	108800	108770	108760	108640	108630	108610	108610	108560	108560	108560	108560	108560	108560
Burundi	25680	25680	25680	25680	25680	25680	25680	25680	25680	25680	25680	25680	25680	25680	25680
Cambodia	176520	176520	176520	176520	176520	176520	176520	176520	176520	176520	176520	176520	176520	176520	176520
Canada	9093510	9093510	9093510	9093510	9093510	9093510	9093510	9093510	9093510	9093510	9093510	9093510	9093510	9093510	9093510
Chad	1259200	1259200	1259200	1259200	1259200	1259200	1259200	1259200	1259200	1259200	1259200	1259200	1259200	1259200	1259200
Chile	743532	743532	743532	743532	743532	743532	743532	743532	743532	743532	743532	743532	743532	743532	743532
China	9388220	9388214.2	9388213.2	9388212.7	9388212.5	9388211.8	9388211.4	9388210.8	9388210.8	9388211	9388211	9388211	9388211	9388211	9388211
Colombia	1109500	1109500	1109500	1109500	1109500	1109500	1109500	1109500	1109500	1109500	1109500	1109500	1109500	1109500	1109500
Congo	2267050	2267050	2267050	2267050	2267050	2267050	2267050	2267050	2267050	2267050	2267050	2267050	2267050	2267050	2267050
Costa Rica	51060	51060	51060	51060	51060	51060	51060	51060	51060	51060	51060	51060	51060	51060	51060
Cyprus	9240	9240	9240	9240	9240	9240	9240	9240	9240	9240	9240	9240	9240	9240	9240
Czech Republic	77270	77270	77270	77270	77260	77260	77250	77250	77250	77250	77240	77240	77230	77230	77210
Denmark	42430	42430	42430	42430	42430	42430	42430	42430	42430	42430	42430	42430	41990	41990	41990
Dominican Republic	48310	48310	48310	48310	48310	48310	48310	48310	48310	48310	48310	48310	48310	48310	48310
Ecuador	248360	248360	248360	248360	248360	248360	248360	248360	248360	248360	248360	248360	248360	248360	248360
Egypt	995450	995450	995450	995450	995450	995450	995450	995450	995450	995450	995450	995450	995450	995450	995450
El Salvador	20720	20720	20720	20720	20720	20720	20720	20720	20720	20720	20720	20720	20720	20720	20720
Eritrea	101000	101000	101000	101000	101000	101000	101000	101000	101000	101000	101000	101000	101000	101000	101000
Fiji	18270	18270	18270	18270	18270	18270	18270	18270	18270	18270	18270	18270	18270	18270	18270
Finland	304590	304590	304590	304590	304590	304590	304110	304090	303900	303900	303900	303890	303890	303890	303890
France	547567	547567	547567	547867	547567	547557	547557	547557	547557	547557	547557	547557	547557	547557	547557
Gabon	257670	257670	257670	257670	257670	257670	257670	257670	257670	257670	257670	257670	257670	257670	257670
Germany	348950	348900	348860	348810	348770	348760	348720	348670	348630	348610	348570	348560	348540	348880	348900
Ghana	227540	227540	227540	227540	227540	227540	227540	227540	227540	227540	227540	227540	227540	227540	227540
Greece	128900	128900	128900	128900	128900	128900	128900	128900	128900	128900	128900	128900	128900	128900	128900
Guatemala	107160	107160	107160	107160	107160	107160	107160	107160	107160	107160	107160	107160	107160	107160	107160
Haiti	27560	27560	27560	27560	27560	27560	27560	27560	27560	27560	27560	27560	27560	27560	27560
Honduras	111890	111890	111890	111890	111890	111890	111890	111890	111890	111890	111890	111890	111890	111890	111890
Hong Kong	1050	1050	1050	1050	1050	1050	1050	1050	1050	1050	1050	1050	1050	1050	1050
Hungary	89620	89620	89620	89620	89620	89610	89610	89610	89610	90530	90530	90530	90530	90530	90530
Iceland	100250	100250	100250	100250	100250	100250	100250	100250	100250	100250	100250	100250	100250	100250	100250
India	2973190	2973190	2973190	2973190	2973190	2973190	2973190	2973190	2973190	2973190	2973190	2973190	2973190	2973190	2973190
Indonesia	1811570	1811570	1811570	1811570	1811570	1811570	1811570	1811570	1811570	1811570	1811570	1811570	1811570	1811570	1811570
Iraq	437370	437370	437370	437370	437370	437370	437370	437370	437370	434320	434320	434320	434320	434320	434320
Ireland	68890	68890	68890	68890	68890	68890	68890	68890	68890	68890	68890	68890	68890	68890	68890
Italy	294110	294110	294110	294140	294140	294140	294140	294140	294140	294140	294140	294140	294140	294140	294140
Japan	364500	364500	364500	364500	364500	364500	364500	364500	364500	364500	364550	364555	364560	364560	364560
Jordan	88240	88240	88240	88240	88240	88240	88240	88240	88240	88780	88780	88780	88780	88780	88780
Kazakhstan	2699700	2699700	2699700	2699700	2699700	2699700	2699700	2699700	2699700	2699700	2699700	2699700	2699700	2699700	2699700
Kenya	569140	569140	569140	569140	569140	569140	569140	569140	569140	569140	569140	569140	569140	569140	569140
Korea	96460	96740	96790	96800	96820	96850	96880	96920	97030	97100	97230	97230	97350	97466	97480
Kuwait	17820	17820	17820	17820	17820	17820	17820	17820	17820	17820	17820	17820	17820	17820	17820
Kyrgyz Republic	191800	191800	191800	191800	191800	191800	191800	191800	191800	191800	191800	191800	191800	191800	191800
Laos	230800	230800	230800	230800	230800	230800	230800	230800	230800	230800	230800	230800	230800	230800	230800
Latvia	62196	62196	62196	62196	62196	62196	62196	62196	62196	62180	62240	62200	62180	62190	62180
Libya	1759540	1759540	1759540	1759540	1759540	1759540	1759540	1759540	1759540	1759540	1759540	1759540	1759540	1759540	1759540
Lithuania	62680	62680	62680	62680	62680	62680	62680	62680	62680	62675	62675	62674	62674	62675	62650
Luxembourg	2590	2590	2590	2590	2590	2590	2590	2590	2590	2590	2590	2590	2590	2590	2590
Macedonia	25430	25430	25430	25430	25430	25430	25430	25230	25230	25220	25220	25220	25220	25220	25220
Malawi	94280	94280	94280	94280	94280	94280	94280	94280	94280	94280	94280	94280	94280	94280	94280
Malaysia	328550	328550	328550	328550	328550	328550	328550	328550	328550	328550	328550	328550	328550	328550	328550
Malta	320	320	320	320	320	320	320	320	320	320	320	320	320	320	320
Mauritania	1030700	1030700	1030700	1030700	1030700	1030700	1030700	1030700	1030700	1030700	1030700	1030700	1030700	1030700	1030700
Mauritius	2030	2030	2030	2030	2030	2030	2030	2030	2030	2030	2030	2030	2030	2030	2030
Mexico	1943950	1943950	1943950	1943950	1943950	1943950	1943950	1943950	1943950	1943950	1943950	1943950	1943950	1943950	1943950
Mongolia	1553560	1553560	1553560	1553560	1553560	1553560	1553560	1553560	1553560	1553560	1553560	1553560	1553560	1553560	1553560
Morocco	446300	446300	446300	446300	446300	446300	446300	446300	446300	446300	446300	446300	446300	446300	446300
Mozambique	786380	786380	786380	786380	786380	786380	786380	786380	786380	786380	786380	786380	786380	786380	786380
Myanmar	653540	653540	653540	653540	653420	653360	653470	653520	653310	653300	653260	653290	653150	653080	653080
Nepal	143350	143350	143350	143350	143350	143350	143350	143350	143350	143350	143350	143350	143350	143350	143350
Netherlands	33760	33760	33760	33760	33760	33760	33760	33760	33760	33730	33730	33720	33720	33690	33690
Netherlands Antilles															
Nicaragua	120340	120340	120340	120340	120340	120340	120340	120340	120340	120340	120340	120340	120340	120340	120340
Norway	365245	365245	365245	365245	365245	365245	365245	365245	365245	365245	365245	365245	365245	365245	365245
Oman	309500	309500	309500	309500	309500	309500	309500	309500	309500	309500	309500	309500	309500	309500	309500
Pakistan	770880	770880	770880	770880	770880	770880	770880	770880	770880	770880	770880	770880	770880	770880	770880
Paraguay	397300	397300	397300	397300	397300	397300	397300	397300	397300	397300	397300	397300	397300	397300	397300
Peru	1280000	1280000	1280000	1280000	1280000	1280000	1280000	1280000	1280000	1280000	1280000	1280000	1280000	1280000	1280000
Philippines	298170	298170	298170	298170	298170	298170	298170	298170	298170	298170	298170	298170	298170	298170	298170
Poland	306290	306290	306290	306240	306330	306330	306320	306320	306300	306280	306280	306230	306220	306210	306190
Portugal	91500	91500	91500	91500	91500	91470	91470	91470	91470	91590	91590	91590	91590	91600	91605
Qatar	11610	11610	11610	11610	11610	11610	11610	11610	11610	11610	11610	11610	11610	11610	11610
Romania	229710	229710	229870	229950	230000	229980	229980	229890	229900	230060	230050	230170	230020	230030	230080
Russian Federation	16381340	16380440	16380940	16380980	16381230	16381390	16377740	16377740	16376870	16376870	16376870	16376870	16376870	16376870	16376870
Saudi Arabia	2149690	2149690	2149690	2149690	2149690	2149690	2149690	2149690	2149690	2149690	2149690	2149690	2149690	2149690	2149690
Serbia	87460	87460	87460	87460	87460	87460	87460	87460	87460	87460	87460	87460	87460	87460	87460
Singapore	670	670	675	687	689	689	694	695	700	700	702	704	706	707	709
Slovak Republic	48100	48100	48100	48110	48100	48100	48100	48100	48100	48090	48091	48088	48088	48088	48086
Slovenia	20140	20140	20140	20140	20140	20140	20140	20140	20140	20140	20140	20140	20140	20140	20140
South Africa	1213090	1213090	1213090	1213090	1213090	1213090	1213090	1213090	1213090	1213090	1213090	1213090	1213090	1213090	1213090
Spain	499000	498520	499040	499210	499180	499090	498980	499110	498800	498660	500010	499880	500210	500210	500210
Sri Lanka	62710	62710	62710	62710	62710	62710	62710	62710	62710	62710	62710	62710	62710	62710	62710
Suriname	156000	156000	156000	156000	156000	156000	156000	156000	156000	156000	156000	156000	156000	156000	156000
Sweden	410340	410340	410340	410340	410340	410340	410340	410340	410340	410340	410340	410340	407340	407340	407310
Switzerland	39524	39523	39522	39521	39520	39518	39517	39516	39516	39516	39516	39516	39516	39516	39516
Syrian Arab Republic	183780	183780	183780	183590	183570	183570	183630	183640	183640	183640	183630	183630	183630	183630	183630
Taiwan															
Tajikistan	139960	139960	139960	139960	139960	139960	139960	139960	139960	139960	139960	139960	139960	139960	138786
Thailand	510890	510890	510890	510890	510890	510890	510890	510890	510890	510890	510890	510890	510890	510890	510890
Trinidad and Tobago	5130	5130	5130	5130	5130	5130	5130	5130	5130	5130	5130	5130	5130	5130	5130
Tunisia	155360	155360	155360	155360	155360	155360	155360	155360	155360	155360	155360	155360	155360	155360	155360
Turkey	769630	769630	769630	769630	769630	769630	769630	769630	769630	769630	769630	769630	769630	769630	769630
Ukraine	579350	579350	579340	579340	579340	579380	579360	579330	579320	579320	579320	579320	579320	579320	579290
United Arab Emirates	83600	83600	83600	83600	83600	83600	83600	83600	83600	83600	83600	83600	83600	83600	83600
United Kingdom	241930	241930	241930	241930	241930	241930	241930	241930	241930	241930	241930	241930	241930	241930	241930
United States	9161920	9161920	9161920	9161920	9161920	9161920	9161920	9161920	9147420	9147420	9147420	9147420	9147420	9147420	9147420
Uruguay	175020	175020	175020	175020	175020	175020	175020	175020	175020	175020	175020	175020	175020	175020	175020
Venezuela	882050	882050	882050	882050	882050	882050	882050	882050	882050	882050	882050	882050	882050	882050	882050

Population

COUNTRY	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014
Afghanistan	20093756	20966463	21979923	23064851	24118979	25070798	25893450	26616792	27294031	28004331	28803167	29708599	30696958	31731688	32758020
Albania	3089027	3060173	3051010	3039616	3026939	3011487	2992547	2970017	2947314	2927519	2913021	2905195	2900401	2895092	2889104
Argentina	37057452	37471509	37889370	38309379	38728696	39145488	39558890	39970224	40382389	40799407	41223889	41656879	42096739	42539925	42981515
Armenia	3069588	3050655	3033897	3017806	3000612	2981259	2958500	2933056	2908220	2888584	2877311	2875581	2881922	2893509	2906220
Australia	19153000	19413000	19651400	19895400	20127400	20394800	20697900	20827600	21249200	21691700	22031750	22340024	22742475	23145901	23504138
Austria	8011566	8042293	8081957	8121423	8171966	8227829	8268641	8295487	8321496	8343323	8363404	8391643	8429991	8479823	8546356
Bangladesh	131581243	134107160	136600667	139019001	141307489	143431101	145368004	147139191	148805814	150454708	152149102	153911916	155727053	157571292	159405279
Belarus	9979610	9928549	9865548	9796749	9730146	9663915	9604924	9560953	9527985	9506765	9490583	9473172	9464495	9465997	9474511
Belgium	10251250	10286570	10332785	10376133	10421137	10478617	10547958	10625700	10709973	10796493	10895586	11047744	11128246	11182817	11209057
Bolivia	8339512	8496375	8653345	8810420	8967741	9125409	9283334	9441444	9599855	9758748	9918242	10078343	10239004	10400264	10562159
Bosnia and Herzegovina	3766706	3771284	3775807	3779247	3781287	3781530	3779468	3774000	3763599	3746561	3722084	3688865	3648200	3604999	3566002
Brazil	175287587	177750670	180151021	182482149	184738458	186917361	189012412	191026637	192979029	194895996	196796269	198686688	200560983	202408632	204213133
Bulgaria	8170172	8009142	7837161	7775327	7716860	7658972	7601022	7545338	7492561	7444443	7395599	7348328	7305888	7265115	7223938
Burundi	6400706	6555829	6741569	6953113	7182451	7423289	7675338	7939573	8212264	8489031	8766930	9043508	9319710	9600186	9891790
Cambodia	12152354	12402473	12634729	12853124	13063377	13270201	13474489	13676693	13880509	14090208	14308740	14537886	14776866	15022692	15270790
Canada	30769700	31081900	31362000	31676000	31995000	32312000	32570505	32887928	33245773	33628571	34005274	34342780	34750545	35152370	35535348
Chad	8342559	8663012	9001689	9353201	9710043	10067009	10421597	10775708	11133861	11502786	11887202	12288651	12705135	13133589	13569438
Chile	15262754	15444969	15623635	15799542	15973778	16147064	16319792	16491687	16661942	16829442	16993354	17153357	17309746	17462982	17613798
China	1262645000	1271850000	1280400000	1288400000	1296075000	1303720000	1311020000	1317885000	1324655000	1331260000	1337705000	1344130000	1350695000	1357380000	1364270000
Colombia	40403958	40988909	41572491	42152151	42724163	43285634	43835722	44374572	44901544	45416181	45918097	46406646	46881475	47342981	47791911
Congo	47076387	48394338	49835756	51390033	53034217	54751476	56543011	58417562	60373608	62409435	64523263	66713597	68978682	71316033	73722860
Costa Rica	3925443	3996798	4063204	4125971	4187038	4247841	4308794	4369469	4429508	4488263	4545280	4600474	4654122	4706401	4757575
Cyprus	943286	960282	976966	993563	1010410	1027658	1045509	1063712	1081563	1098076	1112607	1124835	1135062	1143896	1152309
Czech Republic	10255063	10216605	10196916	10193998	10197101	10211216	10238905	10298828	10384603	10443936	10474410	10496088	10510785	10514272	10525347
Denmark	5339616	5358783	5375931	5390574	5404523	5419432	5437272	5461438	5493621	5523095	5547683	5570572	5591572	5614932	5643475
Dominican Republic	8562622	8697126	8832285	8967760	9102998	9237566	9371338	9504353	9636520	9767758	9897985	10027095	10154950	10281296	10405844
Ecuador	12628596	12852755	13072060	13289601	13509647	13735233	13967480	14205453	14447562	14691275	14934690	15177355	15419666	15661547	15903112
Egypt	69905988	71226940	72590118	73981942	75381899	76778149	78159048	79537253	80953881	82465022	84107606	85897561	87813257	89807433	91812566
El Salvador	5867626	5905962	5940303	5971535	6000775	6028961	6056478	6083475	6110301	6137276	6164626	6192560	6221246	6250777	6281189
Eritrea	3392801	3497124	3614639	3738265	3858623	3969007	4066648	4153332	4232636	4310334	4390840	4474690	..	..	..
Fiji	811223	814218	815691	816628	818354	821817	827411	834812	843340	851967	859950	867086	873596	879715	885806
Finland	5176209	5188008	5200598	5213014	5228172	5246096	5266268	5288720	5313399	5338871	5363352	5388272	5413971	5438972	5461512
France	60912500	61357430	61805267	62244886	62704895	63179351	63621381	64016227	64374989	64707044	65027507	65342775	65659789	65998660	66316092
Gabon	1231122	1262259	1294409	1328146	1364205	1403126	1444844	1489193	1536411	1586754	1640210	1697101	1756817	1817271	1875713
Germany	82211508	82349925	82488495	82534176	82516260	82469422	82376451	82266372	82110097	81902307	81776930	80274983	80425823	80645605	80982500
Ghana	18938762	19421605	19924522	20446782	20986536	21542009	22113425	22700212	23298640	23903831	24512104	25121796	25733049	26346251	26962563
Greece	10805808	10862132	10902022	10928070	10955141	10987314	11020362	11048473	11077841	11107017	11121341	11104899	11045011	10965211	10892413
Guatemala	11650743	11924946	12208848	12500478	12796925	13096028	13397008	13700286	14006366	14316208	14630417	14948919	15271056	15596214	15923559
Haiti	8549200	8692567	8834733	8976552	9119178	9263404	9409457	9556889	9705029	9852870	9999617	10145054	10289210	10431776	10572466
Honduras	6524283	6693061	6863157	7033821	7204153	7373430	7541406	7707972	7872658	8035021	8194778	8351600	8505646	8657785	8809216
Hong Kong	6665000	6714300	6744100	6730800	6783500	6813200	6857100	6916300	6957800	6972800	7024200	7071600	7150100	7178900	7229500
Hungary	10210971	10187576	10158608	10129552	10107146	10087065	10071370	10055780	10038188	10022650	10000023	9971727	9920362	9893082	9866468
Iceland	281205	284968	287523	289521	292074	296734	303782	311566	317414	318499	318041	319014	320716	323764	327386
India	1053050912	1071477855	1089807112	1108027848	1126135777	1144118674	1161977719	1179681239	1197146906	1214270132	1230980691	1247236029	1263065852	1278562207	1293859294
Indonesia	211540429	214506502	217508059	220545214	223614649	226712730	229838202	232989141	236159276	239340478	242524123	245707511	248883232	252032263	255131116
Iraq	23566413	24251649	24939299	25627626	26316609	27008426	27697912	28390433	29111417	29894652	30762701	31727053	32776571	33883145	35006080
Ireland	3805174	3866243	3931947	3996521	4070262	4159914	4273591	4398942	4489544	4535375	4560155	4580084	4599533	4623816	4657740
Italy	56942108	56974100	57059007	57313203	57685327	57969484	58143979	58438310	58826731	59095365	59277417	59379449	59539717	60233948	60789140
Japan	126843000	127149000	127445000	127718000	127761000	127773000	127854000	128001000	128063000	128047000	128070000	127833000	127629000	127445000	127276000
Jordan	5103130	5193482	5287488	5396774	5535595	5714111	5934232	6193191	6489822	6821116	7182390	7574943	7992573	8413464	8809306
Kazakhstan	14883626	14858335	14858948	14909018	15012985	15147029	15308084	15484192	15674000	16092822	16321872	16557201	16792089	17035550	17288285
Kenya	31450483	32321482	33214009	34130852	35074931	36048288	37052050	38085909	39148416	40237204	41350152	42486839	43646629	44826849	46024250
Korea	47008111	47370164	47644736	47892330	48082519	48184561	48438292	48683638	49054708	49307835	49554112	49936638	50199853	50428893	50746659
Kuwait	2050741	2109355	2143833	2169118	2207939	2276623	2377258	2503410	2652340	2818939	2998083	3191051	3395556	3598385	3782450
Kyrgyz Republic	4898400	4945100	4990700	5043300	5104700	5162600	5218400	5268400	5318700	5383300	5447900	5514600	5607200	5719600	5835500
Laos	5329304	5414568	5497273	5579656	5664605	5754026	5849356	5949787	6052190	6152036	6246274	6333487	6415169	6494557	6576397
Latvia	2367550	2337170	2310173	2287955	2263122	2238799	2218357	2200325	2177322	2141669	2097555	2059709	2034319	2012647	1993782
Libya	5355751	5440566	5527515	5615952	5704759	5792688	5881435	5970362	6053078	6121053	6169140	6193501	6198258	6195970	6204108
Lithuania	3499536	3470818	3443067	3415213	3377075	3322528	3269909	3231294	3198231	3162916	3097282	3028115	2987773	2957689	2932367
Luxembourg	436300	441525	446175	451630	458095	465158	472637	479993	488650	497783	506953	518347	530946	543360	556319
Macedonia	2034819	2042842	2048928	2053426	2057047	2060272	2063145	2065458	2067378	2069093	2070739	2072383	2074036	2075739	2077495
Malawi	11376172	11695863	12013711	12336687	12676038	13039711	13429262	13840969	14271234	14714602	15167095	15627618	16097305	16577147	17068838
Malaysia	23185608	23698907	24198811	24688703	25174109	25659393	26143566	26625845	27111069	27605383	28112289	28635128	29170456	29706724	30228017
Malta	390087	393028	395969	398582	401268	403834	405308	406724	409379	412477	414508	416268	420028	425967	434558
Mauritania	2709359	2790729	2873228	2957117	3042823	3130720	3220653	3312665	3407541	3506288	3609543	3717672	3830239	3946170	4063920
Mauritius	1186873	1196287	1204621	1213370	1221003	1228254	1233996	1239630	1244121	1247429	1250400	1252404	1255882	1258653	1260934
Mexico	101719673	103067068	104355608	105640453	106995583	108472228	110092378	111836346	113661809	115505228	117318941	119090017	120828307	122535969	124221600
Mongolia	2397436	2419776	2443659	2469286	2496832	2526446	2558012	2591670	2628131	2668289	2712650	2761516	2814226	2869107	2923896
Morocco	28849621	29181832	29512368	29843937	30179285	30521070	30869346	31225881	31596855	31989897	32409639	32858823	33333789	33824769	34318082
Mozambique	18067687	18588758	19139658	19716598	20312705	20923070	21547463	22188387	22846758	23524063	24221405	24939005	25676606	26434372	27212382
Myanmar	46095462	46627994	47140220	47624894	48073707	48482614	48846474	49171586	49479752	49800690	50155896	50553031	50986514	51448196	51924182
Nepal	23740911	24161777	24566342	24950623	25309449	25640287	25940618	26214847	26475859	26741103	27023137	27327147	27649925	27985310	28323241
Netherlands	15925513	16046180	16148929	16225302	16281779	16319868	16346101	16381696	16445593	16530388	16615394	16693074	16754962	16804432	16865008
Netherlands Antilles															
Nicaragua	5026796	5100750	5171734	5240879	5309703	5379328	5450211	5522106	5594506	5666581	5737723	5807820	5877108	5945747	6013997
Norway	4490967	4513751	4538159	4564855	4591910	4623291	4660677	4709153	4768212	4828726	4889252	4953088	5018573	5079623	5137232
Oman	2267991	2294787	2334285	2385255	2444751	2511269	2582991	2662762	2759014	2882942	3041460	3237268	3464644	3711481	3960925
Pakistan	138523285	141601437	144654143	147703401	150780300	153909667	157093993	160332974	163644603	167049580	170560182	174184265	177911533	181712595	185546257
Paraguay	5302700	5406624	5508611	5607950	5703740	5795494	5882796	5966159	6047117	6127837	6209877	6293783	6379219	6465740	6552584
Peru	25914879	26261363	26601467	26937738	27273194	27610410	27949944	28292724	28641980	29001507	29373646	29759989	30158966	30565716	30973354
Philippines	77991569	79665315	81352060	83031954	84678493	86274237	87809419	89293490	90751864	92220879	93726624	95277940	96866642	98481032	100102249
Poland	38258629	38248076	38230364	38204570	38182222	38165445	38141267	38120560	38125759	38151603	38042794	38063255	38063164	38040196	38011735
Portugal	10289898	10362722	10419631	10458821	10483861	10503330	10522288	10542964	10558177	10568247	10573100	10557560	10514844	10457295	10401062
Qatar	592267	616886	645659	688586	758855	864863	1010382	1189633	1389342	1590780	1779676	1952054	2109568	2250473	2374419
Romania	22442971	22131970	21730496	21574326	21451748	21319685	21193760	20882982	20537875	20367487	20246871	20147528	20058035	19983693	19908979
Russian Federation	146596557	145976083	145306046	144648257	144067054	143518523	143049528	142805088	142742350	142785342	142849449	142960868	143201676	143506911	143819666
Saudi Arabia	20764312	21303592	21906308	22556425	23228890	23905654	24578301	25252569	25940770	26661492	27425676	28238020	29086357	29944476	30776722
Serbia	7516346	7503433	7496522	7480591	7463157	7440769	7411569	7381579	7350222	7320807	7291436	7234099	7199077	7164132	7130576
Singapore	4027887	4138012	4175950	4114826	4166664	4265762	4401365	4588599	4839396	4987573	5076732	5183688	5312437	5399162	5469724
Slovak Republic	5388720	5378867	5376912	5373374	5372280	5372807	5373054	5374622	5379233	5386406	5391428	5398384	5407579	5413393	5418649
Slovenia	1988925	1992060	1994530	1995733	1997012	2000474	2006868	2018122	2021316	2039669	2048583	2052843	2057159	2059953	2061980
South Africa	45728315	46385006	47026173	47648727	48247395	48820586	49364582	49887181	50412129	50970818	51584663	52263516	52998213	53767396	54539571
Spain	40567864	40850412	41431558	42187645	42921895	43653155	44397319	45226803	45954106	46362946	46576897	46742697	46773055	46620045	46480882
Sri Lanka	18781938	18913054	19059300	19215307	19372538	19524558	19670151	19810789	19945832	20075086	20198353	20315017	20425000	20585000	20771000
Suriname	472390	477740	483044	488332	493630	498946	504307	509705	515148	520619	526103	531589	537077	542540	547928
Sweden	8872109	8895960	8924958	8958229	8993531	9029572	9080505	9148092	9219637	9298515	9378126	9449213	9519374	9600379	9696110
Switzerland	7184250	7229854	7284753	7339001	7389625	7437115	7483934	7551117	7647675	7743831	7824909	7912398	7996861	8089346	8188649
Syrian Arab Republic	16410848	16766899	17087901	17415266	17806638	18294611	18914977	19632806	20325443	20824893	21018834	20863993	20420701	19809141	19203090
Taiwan															
Tajikistan	6216205	6327125	6447688	6576877	6712841	6854176	7000557	7152385	7309728	7472819	7641630	7815949	7995062	8177809	8362745
Thailand	62958021	63543322	64073164	64554952	65002231	65425470	65824164	66195615	66545760	66881867	67208808	67530130	67843979	68143065	68416772
Trinidad and Tobago	1267984	1272380	1277837	1284052	1290535	1296934	1303144	1309260	1315372	1321618	1328100	1334788	1341588	1348248	1354493
Tunisia	9699197	9785701	9864326	9939678	10017601	10102482	10196136	10298087	10407336	10521834	10639931	10761467	10886668	11014558	11143908
Turkey	63240121	64191474	65143054	66085803	67007855	67903406	68763405	69597281	70440032	71339185	72326914	73409455	74569867	75787333	77030628
Ukraine	49175848	48683865	48202500	47812950	47451600	47105150	46787750	46509350	46258200	46053300	45870700	45706100	45593300	45489600	45271947
United Arab Emirates	3154925	3326032	3507232	3741932	4087931	4579562	5242032	6044067	6894278	7666393	8270684	8672475	8900453	9006263	9070867
United Kingdom	58892514	59119673	59370479	59647577	59987905	60401206	60846820	61322463	61806995	62276270	62766365	63258918	63700300	64128226	64613160
United States	282162411	284968955	287625193	290107933	292805298	295516599	298379912	301231207	304093966	306771529	309338421	311644280	313993272	316234505	318622525
Uruguay	3321245	3327103	3327773	3325637	3324096	3325612	3331043	3339741	3350824	3362755	3374415	3385624	3396777	3408005	3419546
Venezuela	24488340	24948476	25408700	25868523	26327225	26784161	27239168	27691965	28141701	28587323	29028033	29463291	29893080	30317848	30738378

Urban population percentage

URBAN POP.	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014
Afghanistan	22.1	22.2	22.3	22.4	22.5	22.7	22.9	23.1	23.3	23.5	23.7	23.9	24.2	24.4	24.6
Albania	41.7	42.4	43.5	44.6	45.7	46.7	47.8	48.9	50.0	51.1	52.2	53.2	54.3	55.4	56.4
Argentina	89.1	89.3	89.5	89.7	89.9	90.0	90.2	90.4	90.5	90.7	90.8	91.0	91.1	91.2	91.4
Armenia	64.7	64.4	64.2	64.1	64.0	63.9	63.8	63.7	63.6	63.5	63.4	63.3	63.2	63.2	63.1
Australia	84.2	84.1	84.2	84.3	84.5	84.6	84.7	84.8	84.9	85.1	85.2	85.3	85.4	85.5	85.6
Austria	60.2	59.9	59.7	59.4	59.1	58.8	58.5	58.2	58.0	57.7	57.4	57.1	57.1	57.3	57.5
Bangladesh	23.6	24.1	24.8	25.4	26.1	26.8	27.5	28.2	29.0	29.7	30.5	31.2	32.0	32.8	33.5
Belarus	70.0	70.5	70.9	71.4	71.9	72.4	72.8	73.3	73.7	74.2	74.7	75.2	75.7	76.2	76.7
Belgium	97.1	97.2	97.2	97.3	97.4	97.4	97.5	97.5	97.6	97.6	97.7	97.7	97.7	97.8	97.8
Bolivia	61.8	62.3	62.8	63.2	63.7	64.2	64.6	65.1	65.5	66.0	66.4	66.9	67.3	67.7	68.0
Bosnia and Herzegovina	42.4	42.7	43.0	43.3	43.6	44.0	44.3	44.6	44.9	45.2	45.6	45.9	46.2	46.5	46.8
Brazil	81.2	81.6	81.9	82.2	82.5	82.8	83.1	83.4	83.7	84.0	84.3	84.6	84.9	85.2	85.5
Bulgaria	68.9	69.2	69.5	69.9	70.2	70.6	70.9	71.3	71.6	72.0	72.3	72.6	73.0	73.3	73.7
Burundi	8.2	8.5	8.7	8.9	9.1	9.4	9.6	9.9	10.1	10.4	10.6	10.9	11.2	11.5	11.8
Cambodia	18.6	18.7	18.8	18.9	19.1	19.2	19.3	19.4	19.6	19.9	20.3	20.7	21.0	21.4	21.8
Canada	79.5	79.8	79.9	80.0	80.0	80.1	80.2	80.4	80.6	80.8	80.9	81.1	81.1	81.2	81.2
Chad	21.6	21.7	21.7	21.7	21.8	21.8	21.8	21.9	21.9	21.9	22.0	22.1	22.1	22.2	22.4
Chile	86.1	86.4	86.6	86.7	86.7	86.8	86.8	86.9	87.0	87.0	87.1	87.1	87.2	87.2	87.3
China	35.9	37.1	38.4	39.8	41.1	42.5	43.9	45.2	46.5	47.9	49.2	50.5	51.8	53.0	54.3
Colombia	74.0	74.4	74.8	75.2	75.6	76.0	76.4	76.8	77.2	77.6	78.0	78.3	78.7	79.1	79.4
Congo	35.1	35.6	36.1	36.5	37.0	37.5	38.0	38.5	39.0	39.5	40.0	40.5	41.1	41.6	42.2
Costa Rica	59.1	60.4	61.8	63.1	64.4	65.7	66.9	68.2	69.4	70.6	71.7	72.9	73.9	75.0	75.9
Cyprus	68.6	68.8	68.7	68.6	68.4	68.3	68.1	68.0	67.8	67.7	67.6	67.4	67.3	67.1	67.0
Czech Republic	74.0	73.9	73.8	73.7	73.7	73.6	73.5	73.5	73.4	73.3	73.3	73.2	73.2	73.3	73.4
Denmark	85.1	85.2	85.3	85.4	85.6	85.9	86.1	86.3	86.5	86.7	86.8	87.0	87.1	87.3	87.4
Dominican Republic	61.8	62.6	63.4	64.6	66.0	67.4	68.7	70.0	71.3	72.5	73.8	74.8	75.8	76.7	77.7
Ecuador	60.3	60.8	61.1	61.3	61.5	61.7	61.9	62.1	62.3	62.5	62.7	62.9	63.0	63.1	63.3
Egypt	42.8	42.8	42.9	42.9	43.0	43.0	43.1	43.1	43.1	43.0	43.0	43.0	42.9	42.9	42.8
El Salvador	58.9	59.5	60.0	60.6	61.1	61.6	62.2	62.8	63.7	64.6	65.5	66.3	67.2	68.0	68.9
Eritrea	26.6	27.5	28.3	29.2	30.2	31.1	32.1	33.0	34.0	34.6	35.2	35.8	..	..	..
Fiji	47.9	48.3	48.7	49.1	49.5	49.9	50.3	50.7	51.1	51.7	52.2	52.7	53.2	53.7	54.2
Finland	82.2	82.4	82.5	82.6	82.8	82.9	83.0	83.2	83.3	83.4	83.8	84.3	84.8	85.1	85.2
France	75.9	76.1	76.4	76.6	76.9	77.1	77.4	77.6	77.9	78.1	78.4	78.6	78.9	79.1	79.4
Gabon	78.9	79.6	80.4	81.1	81.8	82.5	83.1	83.7	84.4	85.0	85.5	86.1	86.6	87.2	87.7
Germany	75.0	75.2	75.4	75.6	75.8	76.0	76.2	76.4	76.6	76.8	77.0	77.2	77.2	77.2	77.2
Ghana	43.9	44.6	45.3	46.0	46.6	47.3	48.0	48.7	49.4	50.0	50.7	51.4	52.1	52.7	53.4
Greece	72.7	72.9	73.3	73.7	74.1	74.5	74.8	75.2	75.6	75.9	76.3	76.6	77.0	77.4	77.7
Guatemala	45.3	45.7	46.0	46.3	46.6	46.9	47.2	47.5	47.8	48.1	48.4	48.7	49.0	49.3	49.6
Haiti	35.6	37.3	38.9	40.6	41.7	42.6	43.6	44.6	45.6	46.5	47.5	48.5	49.5	50.5	51.4
Honduras	45.5	46.0	46.6	47.3	47.9	48.6	49.2	49.9	50.6	51.2	51.9	52.5	53.2	53.9	54.5
Hong Kong	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
Hungary	64.6	64.7	65.1	65.5	65.9	66.4	66.9	67.4	67.9	68.5	68.9	69.4	69.7	70.0	70.2
Iceland	92.4	92.5	92.7	92.8	92.9	93.0	93.2	93.3	93.4	93.5	93.6	93.6	93.6	93.6	93.7
India	27.7	27.9	28.2	28.6	28.9	29.2	29.6	29.9	30.2	30.6	30.9	31.3	31.6	32.0	32.4
Indonesia	42.0	42.8	43.6	44.4	45.1	45.9	46.7	47.5	48.3	49.1	49.9	50.6	51.3	52.0	52.6
Iraq	68.5	68.6	68.6	68.7	68.7	68.8	68.8	68.9	68.9	69.0	69.1	69.3	69.4	69.6	69.8
Ireland	59.2	59.4	59.6	59.9	60.2	60.5	60.7	60.9	61.1	61.3	61.5	61.7	61.9	62.1	62.3
Italy	67.2	67.3	67.4	67.5	67.6	67.7	67.9	68.0	68.1	68.2	68.3	68.4	68.7	69.0	69.3
Japan	78.6	80.0	81.6	83.2	84.6	86.0	87.1	88.1	89.1	90.0	90.8	91.1	91.1	91.2	91.3
Jordan	78.3	78.3	78.3	78.3	78.3	79.5	81.0	82.4	83.7	84.9	86.1	87.2	88.2	89.1	90.0
Kazakhstan	56.1	56.2	56.2	56.3	56.4	56.5	56.5	56.6	56.7	56.8	56.8	56.9	57.0	57.0	57.1
Kenya	19.9	20.2	20.6	20.9	21.3	21.7	22.0	22.4	22.8	23.2	23.6	24.0	24.4	24.8	25.2
Korea	79.6	79.9	80.3	80.7	81.0	81.3	81.5	81.6	81.7	81.8	81.9	81.9	81.9	81.8	81.7
Kuwait	99.0	99.9	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
Kyrgyz Republic	35.3	35.3	35.3	35.3	35.3	35.3	35.3	35.3	35.3	35.3	35.3	35.4	35.4	35.5	35.6
Laos	22.0	23.0	24.0	25.1	26.2	27.2	27.7	28.3	28.9	29.5	30.1	30.7	31.3	31.9	32.5
Latvia	68.1	68.0	67.9	67.8	67.9	68.0	68.0	67.9	67.8	67.8	67.8	67.9	67.9	67.9	68.0
Libya	76.4	76.5	76.6	76.8	76.9	77.1	77.3	77.4	77.6	77.8	78.1	78.3	78.5	78.8	79.0
Lithuania	67.0	66.9	66.8	66.7	66.6	66.6	66.7	66.8	66.8	66.8	66.8	66.7	66.9	67.0	67.1
Luxembourg	84.2	84.8	85.3	85.7	86.2	86.6	87.0	87.4	87.8	88.2	88.5	88.9	89.2	89.6	89.9
Macedonia	58.5	58.3	58.1	57.9	57.7	57.5	57.4	57.3	57.2	57.1	57.1	57.1	57.1	57.2	57.3
Malawi	14.6	14.7	14.8	14.9	15.0	15.1	15.1	15.2	15.3	15.4	15.5	15.7	15.8	16.0	16.1
Malaysia	62.0	62.9	63.9	64.8	65.7	66.6	67.5	68.4	69.2	70.1	70.9	71.6	72.3	72.9	73.6
Malta	92.4	92.6	92.9	93.2	93.4	93.6	93.8	93.9	93.9	94.0	94.1	94.1	94.2	94.3	94.3
Mauritania	38.1	38.6	39.5	40.4	41.2	42.1	43.0	43.9	44.8	45.7	46.6	47.5	48.4	49.3	50.2
Mauritius	42.7	42.6	42.4	42.3	42.2	42.1	42.0	41.9	41.8	41.7	41.6	41.4	41.3	41.2	41.1
Mexico	74.7	75.0	75.4	75.7	76.0	76.3	76.6	76.9	77.2	77.5	77.8	78.1	78.4	78.7	79.0
Mongolia	57.1	58.2	59.3	60.4	61.4	62.5	63.5	64.6	65.6	66.6	67.6	68.0	68.0	68.1	68.2
Morocco	53.3	53.7	54.0	54.3	54.6	55.2	55.7	56.3	56.9	57.5	58.0	58.6	59.1	59.7	60.3
Mozambique	29.1	29.3	29.5	29.6	29.8	30.0	30.2	30.4	30.8	31.3	31.8	32.3	32.8	33.4	33.9
Myanmar	27.0	27.2	27.4	27.6	27.8	27.9	28.1	28.3	28.5	28.7	28.9	29.1	29.3	29.5	29.7
Nepal	13.4	13.9	14.2	14.5	14.8	15.1	15.5	15.8	16.1	16.4	16.8	17.1	17.5	17.8	18.2
Netherlands	76.8	77.8	79.1	80.3	81.5	82.6	83.6	84.5	85.4	86.3	87.1	87.9	88.6	89.2	89.7
Netherlands Antilles															
Nicaragua	55.2	55.3	55.5	55.6	55.8	55.9	56.1	56.3	56.5	56.7	56.9	57.1	57.3	57.5	57.7
Norway	76.0	76.4	76.7	77.1	77.4	77.7	78.0	78.2	78.5	78.8	79.1	79.5	79.9	80.3	80.7
Oman	71.6	71.5	71.5	71.5	71.8	72.4	73.0	73.5	74.1	74.6	75.2	76.2	77.6	78.9	80.1
Pakistan	33.0	33.2	33.4	33.6	33.8	34.0	34.2	34.4	34.6	34.8	35.0	35.2	35.4	35.6	35.8
Paraguay	55.3	56.0	56.6	57.0	57.3	57.6	58.0	58.3	58.6	58.9	59.3	59.6	59.9	60.2	60.5
Peru	73.0	73.4	73.9	74.2	74.6	75.0	75.4	75.8	76.1	76.2	76.4	76.6	76.8	77.0	77.2
Philippines	46.1	46.1	46.0	45.9	45.8	45.7	45.6	45.5	45.5	45.4	45.3	45.5	45.7	45.9	46.1
Poland	61.7	61.8	61.8	61.7	61.6	61.5	61.3	61.2	61.1	61.0	60.9	60.8	60.7	60.5	60.4
Portugal	54.4	55.0	55.7	56.3	56.9	57.5	58.1	58.7	59.4	60.0	60.6	61.2	61.8	62.4	62.9
Qatar	96.3	96.5	96.7	96.9	97.1	97.4	97.7	97.9	98.1	98.3	98.5	98.6	98.7	98.8	98.9
Romania	53.0	52.9	52.8	52.9	53.0	53.2	53.3	53.4	53.6	53.7	53.8	54.0	54.0	53.9	53.9
Russian Federation	73.4	73.3	73.3	73.4	73.4	73.5	73.5	73.6	73.6	73.6	73.7	73.7	73.8	73.9	74.0
Saudi Arabia	79.8	80.1	80.3	80.5	80.8	81.0	81.2	81.4	81.6	81.9	82.1	82.3	82.5	82.7	83.0
Serbia	52.8	53.0	53.2	53.4	53.7	53.9	54.1	54.3	54.6	54.8	55.0	55.2	55.4	55.5	55.6
Singapore	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
Slovak Republic	56.2	56.2	56.0	55.9	55.7	55.6	55.4	55.3	55.1	55.0	54.7	54.4	54.3	54.1	54.0
Slovenia	50.8	50.8	50.9	51.1	51.3	51.5	51.8	52.0	52.2	52.4	52.7	52.9	53.1	53.3	53.6
South Africa	56.9	57.4	57.9	58.4	59.0	59.5	60.1	60.6	61.2	61.7	62.2	62.7	63.3	63.8	64.3
Spain	76.3	76.3	76.5	76.8	77.0	77.3	77.5	77.7	78.0	78.2	78.4	78.7	78.9	79.1	79.4
Sri Lanka	18.4	18.4	18.3	18.3	18.3	18.3	18.3	18.3	18.3	18.2	18.2	18.2	18.2	18.2	18.2
Suriname	66.4	66.5	66.6	66.7	66.7	66.7	66.6	66.5	66.5	66.4	66.3	66.3	66.2	66.1	66.1
Sweden	84.0	84.1	84.1	84.2	84.3	84.3	84.4	84.6	84.7	84.9	85.1	85.3	85.6	85.9	86.2
Switzerland	73.4	73.4	73.4	73.4	73.5	73.5	73.5	73.5	73.6	73.6	73.6	73.6	73.7	73.7	73.7
Syrian Arab Republic	51.9	52.3	52.7	53.0	53.4	53.8	54.1	54.5	54.9	55.2	55.6	54.6	53.6	52.5	51.5
Taiwan															
Tajikistan	26.5	26.5	26.5	26.5	26.5	26.5	26.5	26.5	26.5	26.5	26.5	26.5	26.5	26.6	26.7
Thailand	31.4	32.5	33.7	34.9	36.2	37.4	38.7	40.0	41.2	42.5	43.9	44.7	45.4	46.2	46.9
Trinidad and Tobago	55.9	55.7	55.5	55.3	55.2	55.0	54.8	54.6	54.4	54.2	54.0	53.8	53.7	53.5	53.4
Tunisia	63.4	63.8	64.2	64.6	65.0	65.2	65.5	65.8	66.1	66.4	66.7	66.9	67.2	67.5	67.8
Turkey	64.7	65.3	66.0	66.6	67.2	67.8	68.5	69.1	69.7	70.2	70.8	71.4	72.0	72.5	73.1
Ukraine	67.1	67.2	67.3	67.4	67.6	67.8	68.0	68.1	68.3	68.5	68.6	68.7	68.8	68.9	69.0
United Arab Emirates	80.2	80.7	81.1	81.5	81.9	82.3	82.6	83.0	83.4	83.7	84.1	84.4	84.7	85.1	85.4
United Kingdom	78.7	78.8	79.0	79.3	79.6	79.9	80.2	80.5	80.8	81.0	81.3	81.6	81.8	82.1	82.4
United States	79.1	79.2	79.4	79.6	79.8	79.9	80.1	80.3	80.4	80.6	80.8	80.9	81.1	81.3	81.5
Uruguay	92.0	92.3	92.6	92.8	93.1	93.3	93.6	93.8	94.0	94.2	94.4	94.6	94.7	94.8	94.9
Venezuela	87.6	87.9	87.9	87.9	87.9	88.0	88.0	88.0	88.0	88.1	88.1	88.1	88.1	88.1	88.1

Fertility rate

FERTILITY	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014
Afghanistan	7.5	7.4	7.3	7.1	7.0	6.8	6.7	6.5	6.3	6.0	5.8	5.6	5.4	5.2	5.0
Albania	2.2	2.1	2.0	1.9	1.8	1.8	1.7	1.7	1.7	1.6	1.7	1.7	1.7	1.7	1.7
Argentina	2.6	2.5	2.5	2.5	2.5	2.5	2.4	2.4	2.4	2.4	2.4	2.4	2.3	2.3	2.3
Armenia	1.6	1.6	1.6	1.6	1.7	1.7	1.7	1.7	1.7	1.7	1.7	1.7	1.7	1.6	1.6
Australia	1.8	1.7	1.8	1.7	1.8	1.8	1.9	2.0	2.0	2.0	1.9	1.9	1.9	1.9	1.8
Austria	1.4	1.3	1.4	1.4	1.4	1.4	1.4	1.4	1.4	1.4	1.4	1.4	1.4	1.4	1.5
Bangladesh	3.2	3.1	3.0	2.9	2.8	2.7	2.6	2.5	2.4	2.4	2.3	2.3	2.2	2.2	2.2
Belarus	1.3	1.3	1.2	1.2	1.2	1.3	1.3	1.4	1.5	1.5	1.5	1.5	1.6	1.7	1.7
Belgium	1.7	1.7	1.7	1.7	1.7	1.8	1.8	1.8	1.9	1.8	1.9	1.8	1.8	1.8	1.7
Bolivia	4.1	4.0	3.9	3.8	3.7	3.6	3.5	3.4	3.3	3.3	3.2	3.1	3.1	3.0	3.0
Bosnia and Herzegovina	1.5	1.4	1.4	1.3	1.3	1.3	1.3	1.3	1.3	1.3	1.3	1.3	1.3	1.3	1.3
Brazil	2.3	2.2	2.2	2.1	2.0	2.0	1.9	1.9	1.9	1.8	1.8	1.8	1.8	1.8	1.8
Bulgaria	1.3	1.2	1.2	1.3	1.3	1.4	1.4	1.5	1.6	1.7	1.6	1.5	1.5	1.5	1.5
Burundi	7.0	6.9	6.9	6.8	6.8	6.7	6.6	6.5	6.4	6.4	6.3	6.2	6.1	6.0	5.9
Cambodia	3.8	3.7	3.5	3.4	3.3	3.2	3.2	3.1	3.0	2.9	2.9	2.8	2.7	2.7	2.6
Canada	1.5	1.5	1.5	1.5	1.5	1.5	1.6	1.7	1.7	1.7	1.6	1.6	1.6	1.6	1.6
Chad	7.4	7.3	7.3	7.2	7.1	7.1	7.0	6.9	6.8	6.7	6.6	6.5	6.4	6.3	6.2
Chile	2.1	2.1	2.0	2.0	2.0	2.0	2.0	1.9	1.9	1.9	1.9	1.9	1.8	1.8	1.8
China	1.5	1.5	1.5	1.5	1.6	1.6	1.6	1.6	1.6	1.6	1.6	1.6	1.6	1.6	1.6
Colombia	2.4	2.3	2.3	2.3	2.2	2.2	2.2	2.1	2.1	2.0	2.0	2.0	1.9	1.9	1.9
Congo	6.8	6.7	6.7	6.7	6.7	6.7	6.7	6.6	6.6	6.6	6.5	6.5	6.4	6.4	6.3
Costa Rica	2.4	2.3	2.2	2.2	2.1	2.1	2.0	2.0	2.0	2.0	1.9	1.9	1.9	1.8	1.8
Cyprus	1.7	1.7	1.6	1.6	1.5	1.5	1.5	1.5	1.5	1.4	1.4	1.4	1.4	1.4	1.4
Czech Republic	1.2	1.2	1.2	1.2	1.2	1.3	1.3	1.5	1.5	1.5	1.5	1.4	1.5	1.5	1.5
Denmark	1.8	1.7	1.7	1.8	1.8	1.8	1.9	1.8	1.9	1.8	1.9	1.8	1.7	1.7	1.7
Dominican Republic	2.9	2.9	2.8	2.8	2.8	2.7	2.7	2.7	2.7	2.6	2.6	2.6	2.5	2.5	2.5
Ecuador	3.0	3.0	2.9	2.9	2.8	2.8	2.8	2.7	2.7	2.7	2.7	2.6	2.6	2.6	2.5
Egypt	3.2	3.2	3.1	3.1	3.0	3.0	3.0	3.0	3.1	3.1	3.2	3.3	3.3	3.3	3.3
El Salvador	3.0	2.9	2.8	2.7	2.6	2.5	2.5	2.4	2.4	2.3	2.3	2.2	2.2	2.2	2.1
Eritrea	5.3	5.2	5.1	5.1	5.0	4.9	4.9	4.8	4.8	4.7	4.6	4.5	4.4	4.4	4.3
Fiji	3.1	3.0	3.0	3.0	2.9	2.9	2.8	2.8	2.7	2.7	2.7	2.6	2.6	2.6	2.6
Finland	1.7	1.7	1.7	1.8	1.8	1.8	1.8	1.8	1.9	1.9	1.9	1.8	1.8	1.8	1.7
France	1.9	1.9	1.9	1.9	1.9	1.9	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
Gabon	4.5	4.5	4.4	4.3	4.3	4.2	4.2	4.2	4.1	4.1	4.1	4.1	4.0	4.0	3.9
Germany	1.4	1.4	1.3	1.3	1.4	1.3	1.3	1.4	1.4	1.4	1.4	1.4	1.4	1.4	1.5
Ghana	4.8	4.8	4.7	4.6	4.5	4.5	4.4	4.4	4.4	4.3	4.3	4.2	4.2	4.1	4.1
Greece	1.3	1.3	1.3	1.3	1.3	1.3	1.4	1.4	1.5	1.5	1.5	1.4	1.3	1.3	1.3
Guatemala	4.6	4.5	4.4	4.2	4.1	4.0	3.8	3.7	3.6	3.5	3.4	3.3	3.2	3.2	3.1
Haiti	4.3	4.2	4.1	4.0	3.9	3.8	3.7	3.6	3.5	3.4	3.3	3.2	3.2	3.1	3.0
Honduras	4.1	3.9	3.8	3.7	3.6	3.4	3.3	3.2	3.1	3.0	2.9	2.8	2.7	2.6	2.6
Hong Kong	1.0	0.9	0.9	0.9	0.9	1.0	1.0	1.0	1.1	1.1	1.1	1.2	1.3	1.1	1.2
Hungary	1.3	1.3	1.3	1.3	1.3	1.3	1.3	1.3	1.4	1.3	1.3	1.2	1.3	1.4	1.4
Iceland	2.1	2.0	1.9	2.0	2.0	2.1	2.1	2.1	2.2	2.2	2.2	2.0	2.0	1.9	1.9
India	3.3	3.2	3.2	3.1	3.0	3.0	2.9	2.8	2.7	2.7	2.6	2.5	2.5	2.4	2.4
Indonesia	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.4	2.4
Iraq	4.9	4.8	4.7	4.6	4.6	4.6	4.5	4.5	4.6	4.6	4.6	4.6	4.5	4.5	4.5
Ireland	1.9	1.9	2.0	2.0	1.9	1.9	1.9	2.0	2.1	2.1	2.1	2.0	2.0	2.0	1.9
Italy	1.3	1.3	1.3	1.3	1.3	1.3	1.4	1.4	1.5	1.5	1.5	1.4	1.4	1.4	1.4
Japan	1.4	1.3	1.3	1.3	1.3	1.3	1.3	1.3	1.4	1.4	1.4	1.4	1.4	1.4	1.4
Jordan	4.0	4.0	3.9	3.8	3.8	3.8	3.7	3.7	3.7	3.7	3.7	3.6	3.6	3.6	3.5
Kazakhstan	1.8	1.9	2.0	2.0	2.2	2.2	2.4	2.5	2.7	2.6	2.6	2.6	2.6	2.6	2.7
Kenya	5.2	5.1	5.0	5.0	4.9	4.8	4.8	4.7	4.6	4.5	4.4	4.3	4.2	4.1	4.0
Korea	1.5	1.3	1.2	1.2	1.2	1.1	1.1	1.3	1.2	1.1	1.2	1.2	1.3	1.2	1.2
Kuwait	2.8	2.8	2.7	2.6	2.6	2.5	2.5	2.4	2.3	2.3	2.2	2.2	2.1	2.0	2.0
Kyrgyz Republic	2.4	2.4	2.4	2.5	2.6	2.5	2.7	2.7	2.8	2.9	3.1	3.1	3.2	3.1	3.2
Laos	4.3	4.1	4.0	3.8	3.7	3.6	3.5	3.4	3.3	3.2	3.1	3.1	3.0	2.9	2.8
Latvia	1.3	1.2	1.3	1.3	1.3	1.4	1.5	1.5	1.6	1.5	1.4	1.3	1.4	1.5	1.7
Libya	2.9	2.8	2.7	2.6	2.5	2.5	2.5	2.4	2.4	2.4	2.4	2.4	2.4	2.4	2.3
Lithuania	1.4	1.3	1.2	1.3	1.3	1.3	1.3	1.4	1.5	1.5	1.5	1.6	1.6	1.6	1.6
Luxembourg	1.8	1.7	1.6	1.6	1.7	1.6	1.7	1.6	1.6	1.6	1.6	1.5	1.6	1.6	1.5
Macedonia	1.7	1.7	1.6	1.6	1.6	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5
Malawi	6.1	6.1	6.0	6.0	6.0	5.9	5.8	5.7	5.6	5.5	5.3	5.1	5.0	4.9	4.7
Malaysia	2.8	2.7	2.5	2.4	2.4	2.3	2.2	2.2	2.2	2.2	2.1	2.1	2.1	2.1	2.1
Malta	1.7	1.5	1.5	1.5	1.4	1.4	1.4	1.4	1.4	1.4	1.4	1.5	1.4	1.4	1.4
Mauritania	5.5	5.4	5.3	5.3	5.2	5.2	5.1	5.1	5.1	5.0	5.0	4.9	4.9	4.8	4.8
Mauritius	2.0	1.9	1.9	1.9	1.9	1.9	1.8	1.7	1.7	1.6	1.6	1.6	1.5	1.4	1.4
Mexico	2.7	2.7	2.6	2.6	2.5	2.5	2.5	2.4	2.4	2.4	2.3	2.3	2.3	2.3	2.2
Mongolia	2.1	2.1	2.1	2.1	2.1	2.2	2.2	2.3	2.4	2.5	2.6	2.7	2.8	2.8	2.8
Morocco	2.8	2.7	2.7	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6
Mozambique	5.8	5.8	5.8	5.8	5.8	5.7	5.7	5.7	5.6	5.6	5.6	5.5	5.5	5.4	5.4
Myanmar	2.9	2.9	2.9	2.8	2.8	2.7	2.7	2.6	2.5	2.5	2.4	2.4	2.3	2.3	2.3
Nepal	4.0	3.9	3.7	3.6	3.4	3.3	3.2	3.0	2.9	2.7	2.6	2.5	2.4	2.3	2.2
Netherlands	1.7	1.7	1.7	1.8	1.7	1.7	1.7	1.7	1.8	1.8	1.8	1.8	1.7	1.7	1.7
Netherlands Antilles															
Nicaragua	3.1	3.0	2.9	2.8	2.7	2.7	2.6	2.6	2.5	2.5	2.4	2.4	2.3	2.3	2.3
Norway	1.9	1.8	1.8	1.8	1.8	1.8	1.9	1.9	2.0	2.0	2.0	1.9	1.9	1.8	1.8
Oman	3.7	3.5	3.3	3.1	3.0	3.0	2.9	2.9	2.9	2.9	2.9	2.9	2.9	2.8	2.8
Pakistan	4.6	4.4	4.3	4.2	4.1	4.1	4.0	4.0	3.9	3.9	3.9	3.8	3.7	3.7	3.6
Paraguay	3.6	3.4	3.3	3.2	3.1	3.0	3.0	2.9	2.8	2.8	2.7	2.7	2.6	2.6	2.5
Peru	2.9	2.9	2.8	2.8	2.7	2.7	2.6	2.6	2.6	2.6	2.5	2.5	2.5	2.5	2.5
Philippines	3.8	3.8	3.7	3.7	3.6	3.5	3.4	3.3	3.3	3.2	3.2	3.1	3.1	3.0	3.0
Poland	1.4	1.3	1.3	1.2	1.2	1.2	1.3	1.3	1.4	1.4	1.4	1.3	1.3	1.3	1.3
Portugal	1.6	1.5	1.5	1.4	1.4	1.4	1.4	1.4	1.4	1.3	1.4	1.4	1.3	1.2	1.2
Qatar	3.2	3.1	3.0	2.9	2.7	2.6	2.4	2.3	2.2	2.1	2.1	2.0	2.0	2.0	2.0
Romania	1.3	1.3	1.3	1.3	1.3	1.4	1.4	1.5	1.6	1.7	1.6	1.5	1.5	1.5	1.5
Russian Federation	1.2	1.2	1.3	1.3	1.3	1.3	1.3	1.4	1.5	1.5	1.6	1.6	1.7	1.7	1.8
Saudi Arabia	4.0	3.8	3.7	3.6	3.5	3.4	3.3	3.2	3.2	3.1	3.0	2.9	2.8	2.7	2.6
Serbia	1.5	1.6	1.6	1.6	1.6	1.5	1.4	1.4	1.4	1.4	1.4	1.4	1.5	1.4	1.5
Singapore	1.6	1.4	1.4	1.3	1.3	1.3	1.3	1.3	1.3	1.2	1.2	1.2	1.3	1.2	1.3
Slovak Republic	1.3	1.2	1.2	1.2	1.3	1.3	1.3	1.3	1.3	1.4	1.4	1.5	1.3	1.3	1.4
Slovenia	1.3	1.2	1.2	1.2	1.3	1.3	1.3	1.4	1.5	1.5	1.6	1.6	1.6	1.6	1.6
South Africa	2.8	2.8	2.8	2.7	2.7	2.7	2.7	2.6	2.6	2.6	2.6	2.6	2.6	2.5	2.5
Spain	1.2	1.2	1.3	1.3	1.3	1.3	1.4	1.4	1.5	1.4	1.4	1.3	1.3	1.3	1.3
Sri Lanka	2.2	2.2	2.3	2.3	2.3	2.3	2.3	2.3	2.3	2.2	2.2	2.2	2.1	2.1	2.1
Suriname	2.9	2.8	2.8	2.7	2.7	2.7	2.6	2.6	2.6	2.5	2.5	2.5	2.5	2.4	2.4
Sweden	1.5	1.6	1.7	1.7	1.8	1.8	1.9	1.9	1.9	1.9	2.0	1.9	1.9	1.9	1.9
Switzerland	1.5	1.4	1.4	1.4	1.4	1.4	1.4	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5
Syrian Arab Republic	4.0	3.9	3.8	3.7	3.6	3.6	3.5	3.4	3.3	3.3	3.2	3.2	3.1	3.1	3.0
Taiwan															
Tajikistan	3.9	3.8	3.7	3.6	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.4
Thailand	1.7	1.6	1.6	1.6	1.6	1.6	1.6	1.6	1.6	1.6	1.5	1.5	1.5	1.5	1.5
Trinidad and Tobago	1.8	1.7	1.7	1.7	1.8	1.8	1.8	1.8	1.8	1.8	1.8	1.8	1.8	1.8	1.8
Tunisia	2.1	2.1	2.0	2.0	2.0	2.0	2.0	2.0	2.1	2.1	2.1	2.2	2.2	2.2	2.2
Turkey	2.5	2.5	2.4	2.4	2.3	2.3	2.2	2.2	2.2	2.2	2.2	2.1	2.1	2.1	2.1
Ukraine	1.1	1.1	1.1	1.2	1.2	1.2	1.3	1.3	1.5	1.5	1.4	1.5	1.5	1.5	1.5
United Arab Emirates	2.6	2.5	2.4	2.3	2.2	2.2	2.1	2.0	1.9	1.9	1.9	1.8	1.8	1.8	1.8
United Kingdom	1.6	1.6	1.6	1.7	1.8	1.8	1.8	1.9	1.9	1.9	1.9	1.9	1.9	1.8	1.8
United States	2.1	2.0	2.0	2.0	2.1	2.1	2.1	2.1	2.1	2.0	1.9	1.9	1.9	1.9	1.9
Uruguay	2.2	2.2	2.2	2.2	2.2	2.2	2.1	2.1	2.1	2.1	2.1	2.1	2.0	2.0	2.0
Venezuela	2.8	2.8	2.7	2.7	2.7	2.6	2.6	2.6	2.5	2.5	2.5	2.4	2.4	2.4	2.4

Life expectancy

LIFE EXP.	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014
Afghanistan	55.5	56.0	56.6	57.3	57.9	58.5	59.1	59.7	60.2	60.8	61.2	61.7	62.1	62.5	62.9
Albania	74.0	74.3	74.6	74.8	75.0	75.2	75.4	75.7	75.9	76.3	76.7	77.0	77.4	77.7	78.0
Argentina	73.8	74.0	74.2	74.4	74.6	74.8	74.9	75.1	75.3	75.4	75.6	75.8	75.9	76.1	76.3
Armenia	71.4	71.8	72.1	72.3	72.5	72.6	72.7	72.8	72.9	73.1	73.3	73.6	73.8	74.0	74.3
Australia	79.2	79.6	79.9	80.2	80.5	80.8	81.0	81.3	81.4	81.5	81.7	81.9	82.0	82.1	82.3
Austria	78.1	78.6	78.7	78.6	79.2	79.3	79.9	80.2	80.4	80.3	80.6	81.0	80.9	81.1	81.5
Bangladesh	65.3	65.9	66.4	67.0	67.5	67.9	68.4	68.9	69.3	69.8	70.2	70.6	71.0	71.4	71.8
Belarus	68.9	68.5	68.1	68.6	69.0	68.9	69.4	70.2	70.5	70.4	70.4	70.6	72.0	72.5	73.0
Belgium	77.7	78.0	78.1	78.1	78.9	79.0	79.4	79.8	79.7	80.0	80.2	80.6	80.4	80.6	81.3
Bolivia	60.7	61.3	61.8	62.4	63.0	63.5	64.1	64.7	65.3	65.8	66.4	66.9	67.5	67.9	68.4
Bosnia and Herzegovina	74.4	74.7	74.8	75.0	75.1	75.2	75.4	75.5	75.6	75.8	75.9	76.1	76.2	76.4	76.6
Brazil	70.1	70.5	70.9	71.3	71.7	72.0	72.4	72.8	73.1	73.5	73.8	74.2	74.5	74.8	75.0
Bulgaria	71.7	71.8	71.9	72.1	72.6	72.6	72.6	72.7	73.0	73.4	73.5	74.2	74.3	74.9	74.5
Burundi	51.5	51.8	52.0	52.2	52.4	52.7	53.1	53.5	53.9	54.4	54.9	55.3	55.8	56.3	56.7
Cambodia	58.4	59.3	60.3	61.2	62.2	63.1	63.9	64.7	65.4	66.0	66.6	67.0	67.5	67.9	68.3
Canada	79.2	79.5	79.6	79.8	80.1	80.3	80.3	80.5	80.7	80.9	81.2	81.4	81.6	81.8	82.0
Chad	47.6	47.6	47.6	47.7	47.8	48.1	48.3	48.7	49.2	49.7	50.2	50.8	51.3	51.8	52.2
Chile	76.8	77.0	77.3	77.5	77.6	77.8	77.9	78.1	78.2	78.3	78.5	78.6	78.8	78.9	79.1
China	72.0	72.4	72.8	73.3	73.6	74.0	74.3	74.6	74.8	75.0	75.2	75.4	75.6	75.8	75.9
Colombia	71.0	71.3	71.6	71.8	72.1	72.3	72.5	72.7	73.0	73.1	73.3	73.5	73.7	73.8	74.0
Congo	50.0	50.7	51.4	52.1	52.9	53.7	54.4	55.1	55.7	56.4	56.9	57.4	57.9	58.3	58.8
Costa Rica	77.4	77.6	77.7	77.9	78.0	78.1	78.2	78.4	78.5	78.6	78.8	78.9	79.1	79.3	79.4
Cyprus	78.0	78.1	78.3	78.4	78.5	78.6	78.8	78.9	79.1	79.2	79.4	79.6	79.8	80.0	80.2
Czech Republic	75.0	75.2	75.2	75.2	75.7	75.9	76.5	76.7	77.0	77.1	77.4	77.9	78.1	78.2	78.8
Denmark	76.6	76.8	76.9	77.1	77.5	77.8	78.1	78.2	78.4	78.6	79.1	79.8	80.1	80.3	80.7
Dominican Republic	70.6	70.8	71.0	71.2	71.4	71.6	71.9	72.1	72.3	72.5	72.7	72.9	73.1	73.3	73.5
Ecuador	72.9	73.2	73.5	73.7	73.9	74.1	74.3	74.5	74.7	74.9	75.0	75.2	75.4	75.7	75.9
Egypt	68.6	68.8	69.0	69.1	69.3	69.4	69.6	69.8	70.0	70.2	70.4	70.6	70.7	70.9	71.1
El Salvador	68.8	69.1	69.4	69.7	70.0	70.4	70.7	71.0	71.3	71.6	71.9	72.2	72.5	72.8	73.0
Eritrea	55.3	55.8	56.5	57.2	57.9	58.7	59.5	60.2	60.9	61.6	62.2	62.7	63.2	63.7	64.2
Fiji	67.6	67.7	67.9	68.1	68.2	68.4	68.6	68.7	68.9	69.1	69.3	69.4	69.6	69.8	70.0
Finland	77.5	78.0	78.1	78.4	78.7	78.8	79.2	79.3	79.6	79.7	79.9	80.5	80.6	81.0	81.2
France	79.1	79.2	79.3	79.1	80.2	80.2	80.8	81.1	81.2	81.4	81.7	82.1	82.0	82.2	82.7
Gabon	59.3	59.2	59.2	59.3	59.5	59.9	60.4	61.0	61.6	62.2	62.9	63.5	64.1	64.7	65.2
Germany	77.9	78.3	78.2	78.4	78.7	78.9	79.1	79.5	79.7	79.8	80.0	80.4	80.5	80.5	81.1
Ghana	57.0	57.1	57.4	57.8	58.2	58.7	59.2	59.7	60.1	60.6	60.9	61.3	61.6	61.9	62.2
Greece	77.9	78.4	78.6	78.8	79.0	79.2	79.4	79.4	79.9	80.2	80.4	80.7	80.6	81.3	81.4
Guatemala	67.8	68.3	68.7	69.1	69.4	69.8	70.1	70.4	70.8	71.1	71.5	71.9	72.2	72.6	72.9
Haiti	57.7	58.0	58.2	58.5	58.9	59.2	59.6	60.0	60.4	60.9	61.3	61.7	62.1	62.4	62.8
Honduras	70.5	70.8	71.0	71.2	71.3	71.5	71.7	71.9	72.1	72.3	72.4	72.6	72.8	73.0	73.2
Hong Kong	80.9	81.4	81.4	81.4	81.8	81.6	82.4	82.3	82.4	82.8	83.0	83.4	83.5	83.8	84.0
Hungary	71.2	72.2	72.3	72.3	72.6	72.6	73.1	73.2	73.7	73.9	74.2	74.9	75.1	75.6	75.8
Iceland	79.7	80.7	80.5	81.0	81.0	81.5	81.2	81.5	81.6	81.8	81.9	82.4	82.9	82.1	82.9
India	62.6	63.0	63.4	63.8	64.2	64.6	65.0	65.4	65.8	66.2	66.6	67.0	67.4	67.7	68.0
Indonesia	66.3	66.5	66.6	66.8	67.0	67.2	67.4	67.6	67.8	68.0	68.2	68.3	68.5	68.7	68.9
Iraq	69.2	69.1	68.9	68.7	68.5	68.4	68.2	68.2	68.2	68.3	68.5	68.7	69.0	69.2	69.5
Ireland	76.5	77.1	77.6	78.1	78.5	78.9	79.2	79.6	80.1	80.2	80.7	80.7	80.8	81.0	81.3
Italy	79.8	80.1	80.2	80.0	80.8	80.8	81.3	81.4	81.5	81.6	82.0	82.2	82.2	82.7	83.1
Japan	81.1	81.4	81.6	81.8	82.0	81.9	82.3	82.5	82.6	82.9	82.8	82.6	83.1	83.3	83.6
Jordan	71.7	71.9	72.1	72.3	72.4	72.6	72.8	72.9	73.1	73.3	73.4	73.6	73.7	73.9	74.0
Kazakhstan	65.5	65.8	66.0	65.9	65.9	65.9	66.2	66.5	67.0	68.4	68.3	69.0	69.6	70.5	71.6
Kenya	51.8	52.0	52.6	53.4	54.5	55.8	57.3	58.8	60.3	61.7	62.9	64.0	64.9	65.7	66.2
Korea	75.9	76.4	76.8	77.2	77.7	78.2	78.7	79.1	79.5	80.0	80.1	80.6	80.8	81.3	81.7
Kuwait	73.2	73.2	73.3	73.4	73.4	73.5	73.6	73.7	73.8	73.9	74.0	74.1	74.2	74.3	74.5
Kyrgyz Republic	68.6	68.7	68.2	68.3	68.2	68.0	67.7	67.9	68.5	69.1	69.3	69.6	70.0	70.2	70.4
Laos	58.9	59.5	60.1	60.6	61.2	61.8	62.3	62.9	63.4	63.9	64.4	64.8	65.2	65.6	66.0
Latvia	70.3	70.8	71.0	71.3	72.0	71.4	70.9	71.0	72.4	73.1	73.5	73.6	73.8	74.0	74.1
Libya	70.5	70.6	70.8	71.0	71.2	71.4	71.5	71.6	71.7	71.7	71.6	71.6	71.6	71.6	71.7
Lithuania	72.0	71.7	71.8	72.1	72.0	71.3	71.1	70.9	71.8	72.9	73.3	73.6	73.9	73.9	74.5
Luxembourg	77.9	77.8	78.0	77.7	79.1	79.4	79.3	79.4	80.5	80.6	80.6	81.0	81.4	81.8	82.2
Macedonia	73.3	73.5	73.6	73.8	73.9	74.0	74.1	74.2	74.3	74.5	74.6	74.8	75.0	75.2	75.4
Malawi	46.5	46.7	47.2	47.8	48.7	49.8	51.2	52.6	54.2	55.7	57.3	58.7	59.9	61.0	61.9
Malaysia	72.8	73.0	73.1	73.2	73.4	73.5	73.6	73.7	73.9	74.0	74.2	74.4	74.6	74.8	75.0
Malta	78.2	78.8	78.7	78.5	79.3	79.3	79.4	79.8	79.6	80.2	81.4	80.7	80.7	81.7	81.9
Mauritania	60.0	60.1	60.3	60.4	60.5	60.7	61.0	61.2	61.5	61.7	62.0	62.3	62.5	62.7	62.9
Mauritius	71.7	71.8	72.0	72.1	72.3	72.4	72.4	72.6	72.6	72.9	73.0	73.3	73.9	74.0	74.2
Mexico	74.4	74.6	74.8	75.0	75.2	75.3	75.5	75.7	75.8	75.9	76.1	76.3	76.4	76.6	76.8
Mongolia	62.9	63.3	63.8	64.2	64.7	65.1	65.5	66.0	66.4	66.9	67.4	67.8	68.2	68.6	68.8
Morocco	68.7	69.2	69.7	70.3	70.9	71.5	72.0	72.6	73.1	73.6	74.0	74.4	74.7	75.0	75.3
Mozambique	48.3	48.9	49.4	50.0	50.7	51.4	52.1	52.8	53.5	54.1	54.7	55.3	55.9	56.5	57.1
Myanmar	62.1	62.5	62.8	63.0	63.3	63.6	63.9	64.2	64.5	64.8	65.2	65.5	65.8	66.1	66.3
Nepal	62.4	63.1	63.7	64.4	65.0	65.5	66.1	66.6	67.0	67.5	67.9	68.3	68.7	69.1	69.5
Netherlands	78.0	78.2	78.3	78.5	79.1	79.3	79.7	80.1	80.3	80.5	80.7	81.2	81.1	81.3	81.7
Netherlands Antilles															
Nicaragua	69.7	70.2	70.7	71.1	71.5	71.9	72.3	72.7	73.0	73.4	73.7	74.0	74.3	74.6	74.9
Norway	78.6	78.8	79.0	79.4	79.8	80.0	80.3	80.4	80.6	80.8	81.0	81.3	81.5	81.8	82.1
Oman	72.1	72.6	73.0	73.4	73.9	74.2	74.6	74.9	75.2	75.5	75.7	75.9	76.1	76.4	76.6
Pakistan	62.7	63.0	63.2	63.4	63.6	63.8	64.1	64.3	64.6	64.8	65.1	65.4	65.7	65.9	66.1
Paraguay	70.1	70.3	70.6	70.8	71.1	71.3	71.5	71.7	71.9	72.1	72.3	72.5	72.6	72.8	72.9
Peru	70.5	71.0	71.4	71.8	72.1	72.5	72.8	73.0	73.3	73.5	73.7	73.9	74.1	74.3	74.5
Philippines	67.2	67.3	67.4	67.6	67.7	67.8	67.9	68.0	68.1	68.2	68.3	68.4	68.6	68.7	68.8
Poland	73.7	74.2	74.5	74.6	74.8	75.0	75.1	75.2	75.5	75.7	76.2	76.7	76.7	77.0	77.6
Portugal	76.3	76.8	77.1	77.2	77.7	78.1	78.4	78.3	78.5	78.7	79.0	80.5	80.4	80.7	81.1
Qatar	76.3	76.4	76.5	76.6	76.7	76.8	76.8	76.9	77.0	77.2	77.3	77.4	77.6	77.7	77.9
Romania	71.2	71.2	71.0	71.3	71.6	71.9	72.2	72.6	72.6	73.3	73.5	74.4	74.4	75.1	75.0
Russian Federation	65.5	65.4	65.1	65.0	65.5	65.5	66.7	67.6	67.9	68.7	68.8	69.7	70.1	70.6	70.7
Saudi Arabia	72.4	72.7	72.8	72.9	73.0	73.1	73.2	73.2	73.3	73.4	73.6	73.7	73.9	74.1	74.2
Serbia	71.6	72.2	72.3	72.4	72.7	72.8	73.4	73.6	73.9	74.0	74.3	74.5	74.8	75.2	75.3
Singapore	78.0	78.3	78.6	79.0	79.5	80.0	80.1	80.4	80.8	81.2	81.5	81.7	82.0	82.2	82.5
Slovak Republic	73.1	73.4	73.6	73.6	74.0	73.9	74.2	74.2	74.7	74.9	75.1	76.0	76.1	76.4	76.8
Slovenia	75.4	75.8	76.0	76.9	77.2	77.6	78.1	78.6	78.8	79.0	79.4	80.0	80.1	80.3	81.1
South Africa	56.3	55.3	54.3	53.5	52.9	52.6	52.6	53.0	53.7	54.7	55.9	57.2	58.5	59.8	61.0
Spain	79.0	79.4	79.6	79.6	79.9	80.2	80.8	80.9	81.2	81.5	81.6	82.5	82.4	83.1	83.2
Sri Lanka	71.0	71.8	72.5	73.1	73.6	73.9	74.1	74.1	74.2	74.3	74.4	74.5	74.6	74.7	74.9
Suriname	67.8	67.9	68.1	68.2	68.5	68.8	69.1	69.4	69.7	70.1	70.3	70.6	70.8	71.0	71.1
Sweden	79.6	79.8	79.8	80.1	80.5	80.5	80.7	80.9	81.1	81.4	81.5	81.8	81.7	82.0	82.3
Switzerland	79.7	80.2	80.4	80.5	81.1	81.2	81.5	81.7	82.0	82.0	82.2	82.7	82.7	82.8	83.2
Syrian Arab Republic	73.1	73.4	73.7	74.0	74.3	74.4	74.4	74.2	73.6	72.9	72.1	71.3	70.5	70.0	69.8
Taiwan															
Tajikistan	65.5	65.9	66.3	66.7	67.2	67.6	68.1	68.5	68.9	69.3	69.6	70.0	70.2	70.5	70.7
Thailand	70.6	70.8	71.1	71.4	71.8	72.1	72.5	72.9	73.3	73.6	73.9	74.2	74.4	74.7	74.9
Trinidad and Tobago	68.5	68.6	68.6	68.7	68.8	68.9	69.1	69.2	69.4	69.6	69.8	69.9	70.1	70.3	70.4
Tunisia	73.2	73.4	73.6	73.8	74.0	74.2	74.4	74.5	74.6	74.7	74.8	74.9	75.0	75.2	75.3
Turkey	70.0	70.6	71.1	71.6	72.1	72.5	72.9	73.2	73.5	73.9	74.2	74.4	74.7	75.0	75.2
Ukraine	67.9	68.3	68.3	68.2	68.2	68.0	68.1	68.2	68.3	69.2	70.3	70.8	70.9	71.2	71.2
United Arab Emirates	74.2	74.5	74.7	75.0	75.2	75.4	75.6	75.8	76.0	76.2	76.3	76.5	76.6	76.8	76.9
United Kingdom	77.7	78.0	78.1	78.4	78.7	79.0	79.2	79.4	79.6	80.1	80.4	81.0	80.9	81.0	81.3
United States	76.6	76.8	76.9	77.0	77.5	77.5	77.7	78.0	78.0	78.4	78.5	78.6	78.7	78.7	78.8
Uruguay	74.8	75.0	75.2	75.4	75.6	75.8	76.0	76.1	76.3	76.4	76.6	76.7	76.9	77.0	77.2
Venezuela	72.3	72.5	72.7	72.9	73.0	73.1	73.2	73.3	73.4	73.5	73.6	73.7	73.9	74.0	74.2

Gold related

Gold reserves (current USD)

Gold reserves (current USD)	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014
Afghanistan									611438550	764517876.6	988073448.8	1076300569	1169800227	846769455	847823962.5
Albania	30658340.19	30678228	27700539.5	28872965.64	30311251.26	35504411.94	43999714.86	57711924.88	44014429.34	55034634	71126339.46	77478638.51	84209326.37	60955609.14	61031523.42
Argentina	5214550	2488500	3084750	3844471.402	775249050	902880000	43999714.86	1467400000	1530760000	1914000000	2473680000	3038969568	3302968881	2390881020	2393858456
Australia	703415350	708669500	878468250	1069411750	1123032000	1315845000	43999714.86	2139402500	2232648250	2792030954	3608480700	3930665271	4272127375	3092414317	3096265393
Austria	3330999650	3089058000	3498792000	4259288000	4330068000	4988925000	43999714.86	7505417500	7829489500	9789675000	12652311000	13782062000	14979328000	10842909000	10856412000
Bangladesh	29823932.6	30603020	38521672.5	46732000	49318800	57763800	71563291.8	94047000	98073879.75	122647162.5	610549200	665219500	723008000	523310108.9	534393361.4
Belarus			68550000	41725000	87600000	205200000	317850000	226446500	376166875	808831119.9	1594399200	1852050700	2286003200	1717255650	1645707600
Belgium	2277386100	2294120500	2842768500	3459419750	3629706000	3755160000	4653324000	6101382500	6362221250	7955062500	10279827000	11196203000	12168832000	8807304000	8818272000
Bolivia	257677059.3	259601774.4	312270919.2	380145997.9	399050801.8	467381418.6	579170307.6	759606889.5	792407385.6	990793942.9	1596823688	2083958757	2264995017	1646338195	1648388429
Brazil	581312545	303405132.2	370156278.4	450690509.2	473080325.7	554075215.9	686677651.4	900756680.2	939729932.2	1175000059	1515856283	1654183991	3595005147	2602273853	2605514543
Bulgaria	352266245.8	355361412.7	439365333.5	534705875	560859000	656537400	812996730	1066616375	1114845550	1394827500	1802694300	1963813700	2136076800	1548625650	1553569200
Burundi	4726577.9	265716.5	329382.75	400977.25	420918	492993	610907.7	801233.75	835829.75	1045087.5	1350685.5	1471291	1599104	1157524.5	1158966
Cambodia	109733892.4	110553548	137042418	166829902	175126416	205113816	254173202.4	333359930	347753882	434817300	561963876	612093800	665320448	481597644	482197392
Canada	324948800	290878000	205307250	45480250	47742000	55917000	69291300	90878750	94802750	118537500	153199500	166879000	181376000	115632000	115776000
Chad	3053475.81	3076283.7	3813436.5	4642323.5	4873188	5707638	7072798.2	9276302.5	9676838.5						
Chile	20199520	20461000	2742000	3338000	3504000	4052700	5022030	6586625	6871025	8591250	11103450	12094900	13145600	9515550	9527400
China	3485515000	4451650000	6611647500	8048752500	8449020000	9895770000	12262653000	16083037500	16777477500	36855375000	47632395000	51885590000	56392960000	40820505000	40871340000
Colombia	89882375	90415500	112079250	136357300	143138400	167545800	140934690	184175375	191779875	239793750	309912750	509516800	553779200	400857600	401356800
Costa Rica	540940.95	546961.6097	733245.7969	857649.8919	820510.0407	1042948.168	2431864.883	1734200	1867746.188	24980.26437	25688.21907	25499.66317	26085.21501	25318.34723	25753.20855
Cyprus	127427135	128296000	159310200	194188150	203801400	238698900	295791210	387943875	387908500	485025000	626853000	682826000	742144000	537207000	539082000
Czech Republic	122404700	122766000	151495500	184424500	191844000	223155000	275171743.3	357674639.6	367121475	451421250	573865650	612899106	619409024	420025512	410411448
Denmark	587704485.5	591986500	733485000	892759783	937154323	1097626086	1360157705	1783910676	1860917100	2326815000	3007207800	3275727600	3560294400	2577148200	2580357600
Dominican Republic	4940100	5058844	6270954	7634006	8013648	9385848	11630767.2	15254290	15912946	19896900	25715028	28011176	30444544	22037532	22064976
Ecuador	232032193.9	233765354.8	289776041	352761642.9	370304612.6	433712936.7	536993150.3	704291393.9	734701577	918937500	1187647500	1293695000	1406080000	1017802500	457217079.8
Egypt	667462400	672448000	833643747.8	1014844212	1065312798	1247729373	1545287531	2026716185	2114362250	2643712500	3416770500	3721861000	4044924416	2928139500	2931786000
El Salvador	128771940	129733800	160818300	195773700	183565800	130353300	148181670	194347125	202738725	253496250	313567050	341566100	371238400	268723950	263028600
Fiji	219560	221200	274200	333800	350400	410400	508560	667000	695800	870000	1124400	1224800	1331200	963600	1206000
Finland	432807650	436040500	540516750	658003250	692040000	810540000	1004406000	1317325000	1374205000	1718250000	2220690000	2418980000	2629120000	1903110000	1905480000
France	26688890250	26888242500	33331409250	40575894335	42039241314	46607074461	55587515736	69777372918	69688718750	85152340762	1.10052E+11	1.19879E+11	1.30291E+11	94312353614	94429800000
Gabon	3523196.985	3549513.45	4399881.75	5356238.25	5622606	6585381	8160480.9	10702848.75	11164980.75						
Germany	30606389550	30727998000	37971901500	46141174000	48347316000	56536191000	69950520900	91605780000	95427230500	1.19115E+11	1.53683E+11	1.67176E+11	1.81434E+11	1.3117E+11	1.31219E+11
Ghana	76846000	77696500	96312750	117247250	123078000	144153000	178631700	234283750	244399750	305587500	394945500	430211000	467584000	338464500	338886000
Greece	1169705900	1089963000	1348721250	1439929750	1516794000	1780623000	2284070100	3016507500	3145885750	3931312500	5042934000	5494759000	5985408000	4343427000	4359690000
Guatemala	59281200	60083450	74171100	91753275	96009600	113167800	140298990	184592250	192040800	241207500	311739900	339269600	368742400	266917200	267249600
Haiti	358980.6	361662	448317	545763	572698.14	671004	831495.6	1090545	1137633	1422450	1838394	2002548	2176512	70132578.62	70219916.82
Honduras	5872406.65	5917100	7334850	8929150	9373200	10978200	13603980	17842250	18612650	23272500	30077700	33652911	36588032	26506227	26554914
Hungary	27719450	27926500	34617750	42142250	43318200	50735700	62870730	82457875	86018275	107553750	139003950	151415900	164569600	119125050	119273400
Iceland	16192550	17143000	21427461.83	26386439.37	27968701.38	32913567	40944233.62	53263097.07	55477082.9	69382500	89649945.4	97677800	106163200	76847100	76942800
India	3156816929	3180370055	3942382602	4799297274	5037855483	5900501969	7311791622	9589753444	10003823758	19501156220	25203563281	27454041539	29839010529	21599211648	21626160201
Indonesia	851069450	857426500	1062867750	1293892250	1358238000	1590300000	1493895000	1959312500	2043912500	2555625000	3302925000	3597850000	3960320000	3023295000	3027060000
Iraq					82606362	96750823.25	119892444.7	157244495.5	164034062.9	205101515.8	265076028	288745214.4	1593641775	1635054109	3482742044
Ireland	48303200	48664000	60324000	73436000	77088000	90288000	111883200	146740000	167861750	209887500	271261500	295483000	321152000	232468500	232758000
Italy	21634619050	21796218500	27018639750	32891400250	34527102000	40439277000	50111596571	65723680418	68561524490	85726539675	1.10794E+11	1.20687E+11	1.31171E+11	94949532909	95067774000
Japan	6737024613	6802574726	8432486392	10265368190	10775868825	12621051843	15639771260	20512284550	21397972399	26755153761	34578729757	37666336007	40938460559	29633639269	29670542929
Jordan	110019046	111982500	140492539.5	171475980.8	180018000	210843000	260192010	382941375	356858425	445875000	576255000	627710000	741084032	602250000	747720000
Kazakhstan	504852376.9	508671442.6	585554892.5	725915740	803562218.8	985511953.1	1376242980	1864265338	2011643069	2463293001	3041967201	4036165319	6167822048	5565074609	7436350288
Kenya	130089.3	131061	171375	208625	219000	256500	317850	416875	434875	543750	702750	765500	832000	722700	723600
Korea, Rep.	120506169.7	122117462.7	152346801.8	187473073.8	198922565	234831899.9	265778539.4	382516838.9	400431462.7	504214557.8	652376854.7	2679588406	4517331876	4044418506	4049726558
Kuwait	696828550	702033500	870070875	1059189125	1111863000	1302287035	1613724450	2116474375	2207860375	2760618750	3567861750	3886443500	4224064000	3057623250	3061431000
Kyrgyz Republic	22804031.29	22977150	28482525	34669302.5	36393420	42625166.41	52820308.55	69276281.66	72267521.41	90360375	116782995	128432068.7	163526618.1	139794270	152699799.3
Laos	4626442.857	19987000	24775928.57	48877857.14	51308571.43	74751428.57	133497000	175087500	248251500	310403571.4	401169857.1	436991142.9	474953142.9	343282500	343710000
Latvia	68255715	68737900	85207650	103728350	108886800	127583100	158098590	207353625	216306825	270461250	349547850	380759700	413836800	299559150	256878000
Libya	1269056800	1278536000	1584876000	1929364000	2025312000	2372112000	2939476800	3855260000	4021724000	5028600000	6499032000	5741250000	6240000000	4516875000	4522500000
Lithuania	51130035	51456650	63820050	77691950	81380400	95315400	118113060	155327625	162382325	203362500	262828500	286297000	311168000	225241500	225522000
Luxembourg	20858200	21014000	26049000	31293750	32412000	37962000	47041800	61697500	63491750	78300000	101196000	110232000	119808000	86724000	86832000
Macedonia	30830237.75	53675856.41	67914165.61	37078753.19	86463581.27	111973154.1	138755037.2	181983659.4	189841424.6	237369990.5	306735062	335983188	363304363.2	262993734	263698880.1
Malawi	3523114.65	3549430.5	4399881.75	5356238.25	5622606	6585381	8160480.9	10702848.75	11132800	13920000	17990400	19596800	21423700.48	15462164.09	15481419.59
Malaysia	321106500	323505000	401017500	488182500	512460000	600210000	743769000	975487500	1017607500	1272375000	1644435000	1791270000	1946880000	1409265000	1386900000
Malta	1097800	1382500	1219773.559	1484414.859	1752000	2052000	3559920	13340000	5131525	6416250	4357050	15310000	16640000	12045000	3738600
Mauritania	3156175	3179750	3941625	4798375	5037000	5899500	7310550	9588125	10002125	12506250	16163250	17606500	19136000	13851750	13869000
Mauritius	16930820.5	17057285	21144247.5	25740152.5	27020220	31646970	39216333	51434037.5	53472230	136785750	176785195.5	192569180	216320000	150562500	306179280
Mexico	68437127.65	63925651.45	77005385.25	71058667.03	61003295.45	55565997.4	58821180.9	98939709.36	173734684.2	299605751.8	319026154.6	5217316829	6662419856	4767618065	4758433552
Mongolia	23308654.27	50914311.84	48831856.42	6676000	14096675.22		136222010.7	200100000	95195529.1	32565035.25	91064917.07	172649124.7	195882385.9	152047732.8	111431385
Morocco	193761700	195485500	242659116.8	295423608.6	310113327.2	363214924.3	450075600	590295000	615783000	771037500	996218400	1085172800	1179443200	853749600	854812800
Mozambique	19141789.7	13754898.96	22191852.59	10325464.61	28357302.6	48843333.8	60525743.95	79382317.16	82809919.46	81792152.81	105693600	122769979.1	191675169.9	211015638.3	211278422.4
Myanmar	63507730	63982100	79312350	96551650	101353200	118708200	147100980	194847375	203260575	254148750	328465350	357794700	388876800	281491650	281842200
Nepal	41937606.7	42249200	52373571	63757469	66925962	66218553				50909487.68	65796124.07	71671195.98	111177364.5	140701643.9	189116863.9
Netherlands	8045501750	7863107000	9385180500	10429581000	10948248000	11461959000	13099869900	16658325000	17126247250	21413962500	27675700500	30146921000	32765824000	23717809500	23747346000
Oman	79760110.1	80355877	211819.5	257860.5	270684	317034	392862.6	515257.5	521850	652500	843300	918600	1028352	744381	775458
Pakistan	573820060	578106200	717512850	874639450	919143000	1076530500	1334906430	1754043250	1829780050	2287882500	2909666100	3169935500	3446976000	2495272013	2499732457
Paraguay	9587087.4	9658698	11972943	14575377					18456095	23076750	29824710	32487820	438339200	317295412.5	317690550
Peru	301895000	308254960.2	382113517.6	465168011.4	488300992.2	571914163	708705328.3	929499870.2	969634197.4	1212391135	1566911026	1706823750	1855097792	1342827699	1344499962
Philippines	1983851945	2206592766	2991766724	3428736437	3118122000	2548512180	2937601485	3529605588	4304723255	5423090625	6963465420	7833407430	10310210560	7493763529	7572441539
Poland	907331700	914662000	1134159750	1379845750	1448904000	1697004000	2102895600	2758045000	2878002750	3598255956	4650678387	5065947072	5506032611	3985586707	3990889001
Portugal	5353421700	5393685500	6521847000	6937616167	6509994000	6885486000	7819110000	10254291250	10697055250	13374075000	17284839000	18826707000	20462208000	14811736500	14831388000
Qatar	5252973	5292210	6560235	7986165	18264600	9803430	12148227	332666250	347117225	434021250	560935050	611022100	664102400	480715950	481314600
Romania	925994300	935123000	1160551500	1409470500	1479119588	1729117800	2139766200	2780056000	2900007425	3626486250	4686920850	5105272600	5548774400	4016525633	4021527600
Russian Federation	3391927550	3760123500	4272036000	5234401250	5449158000	6380694000	8205615600	12071866250	14529173750	22692862500	35636452500	43462028000	51239552000	40089373500	46846415213
Saudi Arabia	1261372200	1270794000	1575279000	1917681000	2013048000	2357748000	2921677200	3831915000	9029483575	11290098750	14591479350	15894382700	17275148800	12504757650	12520330200
Serbia							24110709.3	321667979.5	355131255.3	458726509.9	592864468.6	705854325.1	818122623.4	628902856.6	680091951.1
Singapore	1124147200	1132544000	1403904000	1709056000	1794048000	2101248000	2603827200	3415040000	3562496000	4454400000	5756928000	6270976000	6815744000	4933632000	4939776000
Slovak Republic	354040500	312168500	386964750	471075250	494502000	579177000	717705300	941303750	981947750	1111425000	1436421000	1564682000	1700608000	1230999000	1228914000
Slovenia	88852.67462	67220431.62	83249014.5	101332271.1	106365363.1	83360764.42	103298250.6	85501062.5	89584250	112012500	143830633.8	156162000	169728000	122859000	123012000
South Africa	1619255000	1581580000	1912545000	1658568750	1744992000	2045331000	2536443000	3330831250	3486827750	4365225000	5644488000	6153089000	6692608000	4844499000	4854150000
Spain	4618719050	4653218500	5767797000	7021065750	7369788000	7549821000	8517744300	7548772500	7874716500	9846225000	12725397000	13861674000	15065856000	10905543000	10917918000
Sri Lanka	92350509.34	70643820.03	74202982.61	68851681.34	72962478	85456053	105895541.7	138886908.8	147857500	737556810.4	485634565.1	491273122.7	728815381.4	888650593.5	895048640.2
Suriname	70316589.77	73286479.01	7032747.118	8606992.782	8984326.523	16097480.99	21845201.32	33195491.53	40612387.84	60428818.58	89084145.74	108518749.8	123756538.5	40351207.74	51858458.31
Sweden	1636111481	1648332390	2043276408	2487388718	2611087498	2777475204	3239456974	3988682946	3830943463	4395802723	5681196071	6188481811	6726083431	4868730464	4874793641
Switzerland	21348219011	19543950038	21121382642	21910538203	19071274937	21278033019	26367340331	30698115566	29084690549	36366313277	46999195187	51195604353	55643034385	40277316685	40324643703
Syrian Arab Republic	228616850	230324500	285510750	347569250	364854000	427329000	529538100	694513750							
Tajikistan	1421651	1725360		5716325	14554740	20694420	28708212	45130887.5	59664850	80377125	78918825	229650000	332800000	200585385	335202876
Thailand	649623150	685720000	855875000	1084850000	1182600000	1385100000	1716390000	2251125000	2348325000	2936250000	4497600000	7501900000	8153600000	5902050000	5909400000
Trinidad and Tobago	16502678.5	16783550	20876902.5	25515742.93	26808228	31414581	38949339	51080527.5	53333070	66881250	86722161	94523940	102755328	74406783	74540448
Tunisia	60379000	60364401.5	74640611.97	90880983	95400528.59	111736017	138461181.3	181590750	189605500	237075000	304993500	331756799.3	360588800	262581000	262908000
Turkey	1026089255	1032126802	1279426624	1557522272	1634978443	1914940505	2372958439	3112238297	3246619800	4059441257	5246480007	9614873827	19240334366	20127099348	20515523589
Ukraine	124490520	133577150	257062500	262867500	227760000	400140000	514917000	697848750	742766500	943950000	1243867500	1379431000	1896960000	1638120000	916560000
United Kingdom	4301585485	3158080786	3458805698	4201859370	4397102378	5126229823	6340947770	8316750094	8675851975	10847812500	14019862500	15271725000	16598400000	12014887500	12029850000
United States	71799138950	72443000000	89800500000	1.0913E+11	1.14575E+11	1.34175E+11	1.66235E+11	2.18025E+11	2.27439E+11	2.8438E+11	3.67537E+11	4.00355E+11	4.35134E+11	3.14975E+11	3.15368E+11
Uruguay	296680450	2212000	2879100	3504695.555	3640905.676	4322276.358	5353096.203	7091410.616	7385656.092	9230025.765	11888730.96	12928315.16	13749965.27	9932246.765	9921026.342
Venezuela	2810368000	3024910000	3619440000	4785857500	5032620000	5884110000	7297836000	9563112500	9967335000	12615000000	16528680000	18004560000	19568640000	14237190000	13998295260

Gold price (constant Q3 2014 USD)

Gold price (constant Q3 2014 USD)	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014
	379.74	366.21	421.85	475.68	519.96155	556.07017	708.82699	816.22095	995.91308	1079.4978	1369.6389	1593.9922	1719.9034	1348.9804	1272.9713

Gold price (current USD)

Gold price (current USD)	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014
	278.25	274.475	322.7	371.275	417.6875	462.7125	606.6875	722.25	904.5	983.5625	1268	1523.875	1673.625	1330.3125	1274.41667

Governance

Democracy index

Democracy index	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014
Afghanistan	0														1
Albania	6	6	7	7	7	9	9	9	9	9	9	9	9	9	9
Argentina	8	8	8	8	8	8	9	8	8	8	8	8	8	8	8
Australia	10	10	10	10	10	10	9	10	10	10	10	10	10	10	10
Austria	10	10	10	10	10	10	9	10	10	10	10	10	10	10	10
Bangladesh	6	6	6	6	6	6	6	0	0	6	6	6	6	5	3
Belarus	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Belgium	10	10	10	10	10	10	10	8	8	8	8	8	8	8	8
Bolivia	9	9	9	8	8	8	8	8	8	7	7	7	7	7	7
Brazil	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8
Bulgaria	8	9	9	9	9	9	9	9	9	9	9	9	9	9	9
Burundi	1					7	7	7	7	7	7	7	7	7	7
Cambodia	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3
Canada	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10
Chad	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
Chile	9	9	9	9	9	9	10	10	10	10	10	10	10	10	10
China	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Colombia	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7
Costa Rica	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10
Cyprus	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10
Czech Republic	10	10	10	10	10	10	9	9	9	9	9	9	9	9	9
Denmark	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10
Dominican Republic	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8
Ecuador	6	6	6	6	6	6	7	5	5	5	5	5	5	6	6
Egypt	0	0	0	0	0	1	1	1	1	1	1	0		0	0
El Salvador	7	7	7	7	7	7	7	7	7	8	8	8	8	8	8
Fiji		6	6	6	7	7	0	0	0	0	0	0	0	0	3
Finland	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10
France	9	9	9	9	9	9	9	9	9	9	9	9	9	9	9
Gabon	0	0	0	0	0	0	0	0	0	4	4	4	4	4	4
Germany	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10
Ghana	3	7	7	7	8	8	8	8	8	8	8	8	8	8	8
Greece	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10
Guatemala	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8
Haiti	1	1	1	1			6	6	6	6					
Honduras	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7
Hungary	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10
Iceland															
India	9	9	9	9	9	9	9	9	9	9	9	9	9	9	9
Indonesia	7	7	7	7	8	8	8	8	8	8	8	8	8	8	9
Iraq	0	0	0								4	4	4	4	6
Ireland	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10
Italy	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10
Japan	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10
Jordan	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2
Kazakhstan	1	1	0	0	0	0	0	0	0	0	0	0	0	0	0
Kenya	2	2	8	8	8	8	8	7	7	7	8	8	8	9	9
Korea	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8
Kuwait	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Kyrgyz Republic	1	1	1	1	1	3	4	3	3	2		7	7	7	7
Laos	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Latvia	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8
Libya	0	0	0	0	0	0	0	0	0	0	0				
Lithuania	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10
Luxembourg	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10
Macedonia	6	6	9	9	9	9	9	9	9	9	9	9	9	9	9
Malawi	6	5	5	6	7	6	6	6	6	6	6	6	6	6	6
Malaysia	4	4	4	4	4	4	4	4	6	6	6	6	6	6	6
Malta															
Mauritania	0	0	0	0	0	0	0	4	0	0	0	0	0	0	0
Mauritius	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10
Mexico	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8
Mongolia	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10
Morocco	0	0	0	0	0	0	0	0	0	0	0	1	1	1	1
Mozambique	5	5	5	5	5	5	5	5	5	5	5	5	5	6	6
Myanmar	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Nepal	7	7	1	1	1	1	7	7	7	6	6	6	6	6	6
Netherlands	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10
Oman	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Pakistan	0	0	0	0	0	0	0	2	5	5	6	6	6	7	7
Paraguay	7	7	7	8	8	8	8	8	9	9	9	9	9	9	9
Peru		9	9	9	9	9	9	9	9	9	9	9	9	9	9
Philippines	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8
Poland	9	9	10	10	10	10	10	10	10	10	10	10	10	10	10
Portugal	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10
Qatar	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Romania	8	8	8	8	9	9	9	9	9	9	9	9	9	9	9
Russian Federation	6	6	6	6	6	6	6	5	5	5	5	5	5	5	5
Saudi Arabia	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Serbia							9	9	9	9	9	9	9	9	9
Singapore	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2
Slovak Republic	9	9	9	9	9	9	10	10	10	10	10	10	10	10	10
Slovenia	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10
South Africa	9	9	9	9	9	9	9	9	9	9	9	9	9	9	9
Spain	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10
Sri Lanka	6	7	7	6	6	6	7	7	7	6	4	4	4	4	4
Suriname	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6
Sweden	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10
Switzerland	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10
Syrian Arab Republic	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Tajikistan	2	2	2	1	1	1	1	1	1	1	1	1	1	1	1
Thailand	9	9	9	9	9	9	0	2	5	5	5	7	7	7	0
Trinidad and Tobago	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10
Tunisia	1	1	1	1	1	1	1	1	1	1	1				7
Turkey	8	8	8	8	8	8	8	8	8	8	8	9	9	9	4
Ukraine	6	6	6	6	6	6	7	7	7	7	6	6	6	6	5
United Kingdom	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10
United States	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10
Uruguay	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10
Venezuela	7	6	6	6	6	6	5	5	5	1	1	1	1	4	4

Rule of law

Rule of law	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014
Afghanistan	-1.77844	-1.72463	-1.67082	-1.55383	-1.69714	-1.65867	-1.86319	-1.82967	-1.86438	-1.84709	-1.84544	-1.89663	-1.64317	-1.59731	-1.44565
Albania	-1.00878	-0.88546	-0.76215	-0.72314	-0.68777	-0.73634	-0.68477	-0.6463	-0.58869	-0.50043	-0.40738	-0.45537	-0.52032	-0.51802	-0.33786
Argentina	-0.14992	-0.45396	-0.758	-0.77351	-0.80737	-0.55465	-0.68477	-0.5916	-0.67661	-0.67548	-0.59051	-0.56089	-0.67968	-0.70768	-0.88603
Australia	1.751407	1.775699	1.79999	1.882049	1.815572	1.724451	-0.68477	1.761237	1.770851	1.740398	1.764966	1.74258	1.766946	1.778639	1.923105
Austria	1.842372	1.867014	1.891656	1.887247	1.836986	1.859191	-0.68477	1.960128	1.922995	1.78489	1.8003	1.801555	1.858179	1.851382	1.952464
Bangladesh	-0.91169	-0.90736	-0.90303	-1.04765	-1.01997	-0.97891	-0.90397	-0.82679	-0.75014	-0.78555	-0.80293	-0.73243	-0.9293	-0.86682	-0.77767
Belarus	-1.13381	-1.23488	-1.33595	-1.19422	-1.26196	-1.22759	-1.33436	-1.20923	-1.0627	-1.03005	-1.06966	-1.1073	-0.937	-0.90092	-0.84031
Belgium	1.340115	1.357139	1.374162	1.365136	1.328163	1.268298	1.23609	1.330672	1.345495	1.384073	1.393128	1.418426	1.427129	1.438435	1.523439
Bolivia	-0.38752	-0.39393	-0.40035	-0.45209	-0.68477	-0.75633	-0.85011	-0.83011	-0.97453	-1.10793	-1.02374	-0.97906	-1.01607	-1.04643	-1.05519
Brazil	-0.20845	-0.22014	-0.23183	-0.32289	-0.36488	-0.42949	-0.3664	-0.371	-0.31528	-0.15651	0.044081	0.037661	-0.06945	-0.08018	-0.04986
Bulgaria	-0.121	-0.07724	-0.03347	-0.14037	-0.11254	-0.09559	-0.09354	-0.04596	-0.10726	-0.03834	-0.06924	-0.11174	-0.08521	-0.10241	-0.04602
Burundi	-1.35413	-1.301	-1.24786	-1.39784	-1.53741	-1.15389	-0.97044	-1.06464	-1.02313	-1.1473	-1.19547	-1.13863	-1.08353	-1.07	-0.96602
Cambodia	-1.05913	-1.10109	-1.14305	-1.25318	-1.27973	-1.23394	-1.23454	-1.14224	-1.1483	-1.11806	-1.11851	-1.04504	-0.97967	-1.00412	-0.95521
Canada	1.694389	1.693899	1.693409	1.734842	1.706601	1.661659	1.814535	1.814706	1.80829	1.804082	1.805715	1.736531	1.763582	1.755976	1.890682
Chad	-1.09178	-1.07036	-1.04894	-1.33549	-1.40671	-1.51095	-1.54856	-1.53886	-1.6167	-1.51338	-1.50332	-1.47423	-1.46607	-1.38249	-1.13865
Chile	1.322716	1.339221	1.355726	1.289519	1.321666	1.304793	1.271957	1.28842	1.313308	1.296515	1.33554	1.365901	1.391888	1.367829	1.43314
China	-0.52716	-0.51245	-0.49773	-0.52983	-0.52934	-0.58908	-0.63948	-0.54221	-0.4198	-0.40705	-0.40992	-0.46484	-0.54289	-0.52459	-0.41448
Colombia	-0.88967	-0.80324	-0.7168	-0.70327	-0.68552	-0.62325	-0.50518	-0.43586	-0.39677	-0.38847	-0.30859	-0.25583	-0.35387	-0.40589	-0.2919
Costa Rica	0.634486	0.670061	0.705636	0.703033	0.559696	0.558704	0.46625	0.38186	0.460335	0.563519	0.523667	0.451359	0.519687	0.55167	0.560501
Cyprus	1.039934	1.027813	1.015691	0.968806	0.922908	0.887087	1.105021	1.119864	1.216479	1.212835	1.216249	1.07301	1.09963	1.036581	1.077018
Czech Republic	0.636567	0.750319	0.864072	0.871044	0.7832	0.867528	0.872644	0.905903	0.914494	0.962593	0.949479	1.036918	1.041853	1.039771	1.152181
Denmark	1.838745	1.877522	1.916299	1.960584	1.951609	1.948244	1.997572	2.01373	1.966503	1.924757	1.897532	1.922708	1.8739	1.900482	2.096355
Dominican Republic	-0.61034	-0.64156	-0.67277	-0.60857	-0.67211	-0.67041	-0.57581	-0.61364	-0.66029	-0.77262	-0.80833	-0.77341	-0.68777	-0.53239	-0.40567
Ecuador	-0.64039	-0.6806	-0.72082	-0.7381	-0.74667	-0.79371	-1.03307	-1.03504	-1.16748	-1.2515	-1.20408	-1.2053	-1.13469	-0.96827	-1.05842
Egypt	-0.01078	0.000781	0.012345	0.021366	0.019538	-0.02418	-0.25781	-0.22998	-0.12925	-0.10518	-0.17942	-0.45205	-0.47238	-0.63328	-0.66252
El Salvador	-0.73986	-0.62502	-0.51018	-0.45579	-0.38118	-0.45409	-0.62168	-0.64504	-0.66765	-0.74761	-0.81262	-0.72222	-0.69869	-0.61906	-0.47633
Fiji	-0.41975	-0.37246	-0.32518	-0.04939	0.026031	-0.04661	-0.06447	-0.60093	-0.56147	-0.77107	-0.84842	-0.82453	-0.79122	-0.82295	-0.51149
Finland	1.984539	1.961288	1.938037	1.999097	1.961037	1.963109	1.973505	1.914936	1.922676	1.970258	1.968725	1.949499	1.951503	1.936688	2.100273
France	1.459405	1.350171	1.240936	1.367351	1.44289	1.418815	1.474472	1.472339	1.507125	1.452676	1.519731	1.446996	1.454164	1.426773	1.474639
Gabon	-0.20581	-0.21472	-0.22363	-0.36951	-0.51575	-0.44992	-0.73711	-0.70193	-0.62697	-0.54563	-0.51736	-0.4613	-0.46943	-0.53985	-0.50889
Germany	1.637887	1.652026	1.666165	1.674761	1.639209	1.663715	1.783433	1.772996	1.745706	1.655951	1.631237	1.616171	1.664948	1.6495	1.856834
Ghana	0.154609	0.09851	0.042412	0.068903	-0.11903	-0.11628	0.054456	0.035718	-0.06802	-0.04206	-0.02807	-0.00488	0.010495	0.149142	0.052245
Greece	0.883719	0.815661	0.747603	0.818208	0.913304	0.794582	0.873663	0.872376	0.862213	0.652815	0.630501	0.572887	0.426507	0.465022	0.3626
Guatemala	-0.88148	-0.92765	-0.97382	-1.07258	-1.01017	-1.05112	-1.09412	-1.11538	-1.10974	-1.01817	-0.96008	-1.03643	-1.07631	-1.08348	-0.96223
Haiti	-1.4634	-1.61557	-1.76775	-1.79459	-1.71606	-1.63894	-1.40527	-1.34405	-1.27686	-1.31945	-1.37033	-1.4077	-1.32745	-1.29426	-1.18546
Honduras	-0.98864	-0.91253	-0.83641	-0.8814	-0.7618	-0.77921	-0.99131	-0.93049	-0.96483	-0.89695	-0.87802	-0.90386	-1.14022	-1.16466	-0.94458
Hungary	0.906142	0.940572	0.975002	0.932618	0.91325	0.864853	0.997734	0.964174	0.926062	0.79649	0.780268	0.764692	0.615284	0.582693	0.501931
Iceland	1.826714	1.859814	1.892914	1.958809	1.927046	1.951466	1.895821	1.845549	1.865286	1.714271	1.713807	1.697878	1.685005	1.662148	1.708532
India	0.330215	0.1668	0.003384	0.130994	0.040043	0.127903	0.177331	0.093782	0.086039	0.013824	-0.03739	-0.09069	-0.07196	-0.05732	-0.06325
Indonesia	-0.71734	-0.81567	-0.914	-0.85083	-0.77363	-0.82153	-0.71903	-0.68147	-0.65387	-0.60262	-0.64	-0.59303	-0.57568	-0.53077	-0.34218
Iraq	-1.38817	-1.44845	-1.50872	-1.64104	-1.82836	-1.71272	-1.67922	-1.83793	-1.76871	-1.69814	-1.55828	-1.45296	-1.45786	-1.44964	-1.33479
Ireland	1.567611	1.597184	1.626757	1.518056	1.52895	1.595653	1.722037	1.745495	1.715704	1.750502	1.768064	1.755929	1.734317	1.731723	1.779153
Italy	0.860603	0.812323	0.764043	0.715892	0.602101	0.518271	0.38762	0.478749	0.455116	0.40474	0.430329	0.466514	0.40332	0.402901	0.377391
Japan	1.315753	1.245901	1.176049	1.196319	1.265991	1.234982	1.363448	1.335137	1.318866	1.293836	1.326372	1.312013	1.357861	1.443707	1.601542
Jordan	0.36911	0.240632	0.112153	0.35686	0.316052	0.325274	0.332674	0.38737	0.411545	0.250783	0.192973	0.237919	0.369098	0.392967	0.464213
Kazakhstan	-1.10741	-1.12504	-1.14267	-1.03067	-1.00889	-0.86543	-1.01559	-0.94775	-0.8241	-0.64568	-0.61591	-0.57351	-0.68461	-0.6916	-0.59805
Kenya	-0.87263	-0.87354	-0.87445	-0.83041	-0.83609	-0.88153	-0.87823	-0.96572	-0.99384	-1.01289	-0.94236	-0.90368	-0.8238	-0.71112	-0.41686
Korea, Rep.	0.881257	0.914289	0.947321	0.834257	0.919705	0.990007	0.871459	1.029149	0.880893	0.993718	1.00388	1.025968	0.984208	0.953823	0.993528
Kuwait	0.572777	0.593406	0.614034	0.574402	0.519019	0.53681	0.538474	0.604888	0.58817	0.586304	0.591725	0.549244	0.367613	0.365627	0.022491
Kyrgyz Republic	-0.87108	-0.8382	-0.80531	-0.74091	-0.81403	-1.11442	-1.31363	-1.3185	-1.37156	-1.32534	-1.26686	-1.19035	-1.12948	-1.10921	-0.92691
Laos	-0.98814	-1.0714	-1.15467	-1.27273	-1.12175	-1.17913	-1.01524	-0.95701	-0.86923	-1.05346	-0.97977	-1.00053	-0.85164	-0.80028	-0.75136
Latvia	0.197337	0.269452	0.341567	0.595719	0.587343	0.618482	0.669318	0.759257	0.809207	0.814353	0.787804	0.747023	0.785477	0.76785	0.872383
Libya	-0.98952	-1.06291	-1.1363	-0.89644	-0.90861	-0.97508	-1.07652	-0.95145	-0.82422	-0.93372	-0.99342	-1.20012	-1.13757	-1.33688	-1.50869
Lithuania	0.292086	0.37244	0.452794	0.541342	0.607006	0.628723	0.716303	0.726697	0.722483	0.728032	0.782363	0.774958	0.850415	0.836004	0.939177
Luxembourg	1.845376	1.8749	1.904424	1.866144	1.865489	1.83068	1.699838	1.765278	1.801214	1.827186	1.851443	1.83319	1.798904	1.816299	1.906488
Macedonia	-0.57249	-0.56281	-0.55312	-0.48682	-0.23524	-0.31783	-0.53244	-0.42698	-0.34715	-0.25705	-0.26431	-0.23666	-0.22072	-0.19962	-0.05251
Malawi	-0.47731	-0.44808	-0.41886	-0.21249	-0.12275	-0.10506	-0.21586	-0.15555	-0.11043	-0.11025	-0.12557	-0.15505	-0.21872	-0.16228	-0.28637
Malaysia	0.273118	0.361977	0.450835	0.52391	0.517963	0.49709	0.467347	0.437705	0.344933	0.455968	0.478165	0.478687	0.465032	0.435761	0.588296
Malta	1.390722	1.448018	1.505314	1.576137	1.330264	1.426871	1.568244	1.629644	1.62492	1.480706	1.416975	1.286829	1.344982	1.333084	1.19364
Mauritania	-0.42363	-0.47356	-0.52349	-0.52448	-0.72858	-0.71111	-0.78465	-0.7031	-1.14111	-0.80468	-0.88954	-0.91525	-0.91748	-0.99845	-0.86037
Mauritius	0.98235	1.018596	1.054843	1.07713	1.000842	1.02916	0.881699	0.909599	0.996262	0.943008	0.858104	0.901601	0.974967	0.950068	0.912838
Mexico	-0.38261	-0.34619	-0.30977	-0.33221	-0.37409	-0.34696	-0.4315	-0.49404	-0.66787	-0.55986	-0.55083	-0.54922	-0.53409	-0.54449	-0.42283
Mongolia	-0.00616	0.086861	0.179888	0.213086	0.027697	-0.21872	-0.31958	-0.34744	-0.3459	-0.26077	-0.36022	-0.26704	-0.37546	-0.37138	-0.34474
Morocco	0.129317	0.054502	-0.02031	-0.07573	-0.03255	-0.16491	-0.28971	-0.29872	-0.30335	-0.21002	-0.17185	-0.22768	-0.20918	-0.24795	-0.06514
Mozambique	-0.7274	-0.68346	-0.63951	-0.67281	-0.6702	-0.61659	-0.61166	-0.59782	-0.60694	-0.59064	-0.47185	-0.56687	-0.5861	-0.81559	-0.81033
Myanmar	-1.42395	-1.56895	-1.71396	-1.70072	-1.73979	-1.73173	-1.53339	-1.54775	-1.54182	-1.53192	-1.54771	-1.43846	-1.35474	-1.23382	-1.18566
Nepal	-0.25288	-0.36162	-0.47037	-0.556	-0.74252	-0.81577	-0.62302	-0.59322	-0.67349	-0.86002	-0.95186	-0.88674	-0.7357	-0.71814	-0.64958
Netherlands	1.774045	1.756861	1.739676	1.747386	1.757815	1.764358	1.783092	1.78735	1.761363	1.814506	1.819352	1.822074	1.861233	1.835081	1.980403
Oman	0.558062	0.514999	0.471937	0.491311	0.522635	0.314848	0.294712	0.412377	0.593788	0.555269	0.542721	0.467974	0.523969	0.492018	0.485808
Pakistan	-0.92874	-0.85326	-0.77777	-0.77421	-0.87698	-0.89041	-0.85641	-0.88701	-0.96867	-0.83107	-0.73872	-0.90187	-0.88422	-0.85682	-0.76034
Paraguay	-1.01209	-1.05476	-1.09744	-1.0278	-1.00044	-0.97515	-0.97829	-0.97334	-0.92802	-0.88376	-0.86342	-0.83674	-0.84621	-0.80814	-0.67316
Peru	-0.68972	-0.57866	-0.46759	-0.5218	-0.4894	-0.68367	-0.68679	-0.7295	-0.70441	-0.61378	-0.56292	-0.57651	-0.57438	-0.56597	-0.52107
Philippines	-0.37524	-0.37501	-0.37477	-0.49135	-0.56812	-0.35014	-0.41096	-0.46422	-0.54565	-0.5705	-0.55258	-0.51106	-0.52316	-0.40339	-0.31731
Poland	0.714186	0.711747	0.709307	0.56139	0.42265	0.480805	0.404506	0.428653	0.546503	0.628406	0.683575	0.766174	0.780412	0.819491	0.840596
Portugal	1.225493	1.280952	1.336411	1.309731	1.24946	1.2349	0.98591	1.016893	1.020404	1.064921	1.056598	1.023857	1.065502	1.058802	1.137531
Qatar	0.50813	0.527111	0.546092	0.449065	0.349332	0.585705	0.634221	0.531227	0.678105	0.908489	0.851968	0.757616	0.958203	0.958524	0.864008
Romania	-0.20492	-0.23251	-0.2601	-0.20899	-0.17469	-0.13823	-0.11787	-0.09074	-0.01361	0.045408	0.048214	0.056955	0.04213	0.125016	0.165362
Russian Federation	-1.09756	-0.9684	-0.83924	-0.91066	-0.88548	-0.92731	-0.95336	-0.97012	-0.9551	-0.77633	-0.76493	-0.72573	-0.81847	-0.78419	-0.74146
Saudi Arabia	-0.15068	-0.07564	-0.0006	0.130477	0.020335	-0.01479	0.018629	0.077264	0.074601	0.050295	0.155001	0.051594	0.148859	0.157214	0.132184
Serbia	-1.27187	-1.06666	-0.86145	-0.85236	-0.72317	-0.90672	-0.53183	-0.46674	-0.49503	-0.41331	-0.37314	-0.28962	-0.3563	-0.32611	-0.14968
Singapore	1.298522	1.352636	1.406749	1.5733	1.657221	1.707485	1.586578	1.612359	1.606087	1.566005	1.625942	1.669992	1.731186	1.705524	1.824775
Slovak Republic	0.342357	0.329768	0.317179	0.362424	0.51641	0.544904	0.546779	0.492794	0.590271	0.539761	0.571119	0.607048	0.492303	0.478546	0.496026
Slovenia	1.035779	1.012281	0.988783	0.97396	0.928006	0.893385	0.910227	0.923824	1.008982	1.075426	1.008394	1.052852	1.014999	1.000792	1.001514
South Africa	0.202503	0.167501	0.1325	0.124147	0.113917	0.114751	0.255048	0.094902	0.072505	0.123987	0.141176	0.152451	0.110432	0.158148	0.18279
Spain	1.434407	1.345772	1.257137	1.280947	1.144683	1.127902	1.131011	1.168316	1.193509	1.162589	1.188944	1.198052	1.064827	1.020516	0.952644
Sri Lanka	0.1523	0.241293	0.330286	0.244533	0.17599	0.152657	0.175345	0.129596	-0.01184	-0.1071	-0.12149	-0.1223	-0.12238	-0.27696	-0.17008
Suriname	-0.02271	-0.06719	-0.11166	-0.033	-0.17282	-0.12824	-0.21975	-0.23894	-0.22931	-0.11969	-0.05252	-0.04295	-0.0574	-0.04516	-0.13718
Sweden	1.830132	1.853104	1.876075	1.926438	1.893259	1.809585	1.864799	1.90989	1.931482	1.965965	1.955097	1.941077	1.951555	1.972878	1.992006
Switzerland	1.976893	1.96469	1.952487	1.939255	1.906983	1.913729	1.817233	1.8457	1.816634	1.750544	1.757034	1.73154	1.819054	1.804692	1.994928
Syrian Arab Republic	-0.49396	-0.52087	-0.54778	-0.46759	-0.47151	-0.58778	-0.9425	-0.80324	-0.69352	-0.574	-0.58588	-0.77585	-1.12603	-1.40614	-1.36218
Tajikistan	-1.39042	-1.28969	-1.18897	-1.02794	-1.17015	-1.09135	-1.17852	-1.29267	-1.28577	-1.26772	-1.20946	-1.2264	-1.20041	-1.25262	-1.01101
Thailand	0.581113	0.482739	0.384365	0.162131	0.10636	0.045837	-0.05577	-0.11896	-0.14025	-0.23019	-0.2047	-0.20391	-0.15109	-0.12053	-0.19137
Trinidad and Tobago	0.454284	0.457587	0.460889	0.276577	0.021276	-0.00479	-0.19494	-0.12736	-0.18882	-0.17839	-0.16936	-0.15396	-0.14114	-0.16849	-0.09081
Tunisia	-0.21582	-0.1689	-0.12197	-0.14325	0.047362	-0.01294	0.113648	0.085751	0.072516	0.129553	0.06171	-0.13216	-0.12937	-0.18925	-0.10968
Turkey	-0.01179	-0.01958	-0.02737	0.151064	0.126244	0.159731	0.048252	0.021233	0.083061	0.10489	0.110654	0.074782	0.036304	0.066959	0.005123
Ukraine	-1.10881	-0.9583	-0.80779	-0.78108	-0.75718	-0.77888	-0.79571	-0.72696	-0.68134	-0.75878	-0.80764	-0.8188	-0.7829	-0.80448	-0.79097
United Kingdom	1.696059	1.689941	1.683822	1.704882	1.62652	1.569473	1.785749	1.737427	1.708199	1.738985	1.764103	1.650691	1.718676	1.705038	1.889571
United States	1.592754	1.5702	1.547646	1.590775	1.435955	1.539517	1.605403	1.627855	1.640027	1.59849	1.638103	1.600044	1.627279	1.557241	1.610473
Uruguay	0.590465	0.637268	0.68407	0.662397	0.456652	0.471145	0.562511	0.604659	0.595219	0.718072	0.738598	0.699017	0.593178	0.564282	0.710575
Venezuela	-0.86142	-0.99738	-1.13334	-1.29415	-1.24403	-1.24244	-1.42469	-1.57443	-1.62353	-1.61791	-1.65428	-1.67573	-1.68982	-1.82113	-1.91632

Control of corruption

Control of corruption	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014
Afghanistan	-1.29538	-1.27937	-1.26337	-1.35104	-1.34528	-1.44361	-1.43289	-1.58733	-1.63829	-1.5348	-1.63572	-1.57918	-1.41989	-1.43676	-1.35478
Albania	-0.85726	-0.86293	-0.8686	-0.81228	-0.6992	-0.78619	-0.80385	-0.68779	-0.59371	-0.5385	-0.52508	-0.68301	-0.7265	-0.6986	-0.5482
Argentina	-0.19212	-0.33017	-0.46821	-0.47834	-0.42499	-0.38819	-0.80385	-0.34029	-0.43558	-0.445	-0.36147	-0.36616	-0.44314	-0.43228	-0.54162
Australia	1.923246	1.866437	1.809628	1.949854	2.028761	1.952358	-0.80385	2.010918	2.042482	2.051661	2.031455	2.044637	1.985774	1.785322	1.853449
Austria	1.809211	1.887823	1.966434	2.019736	2.049625	1.92206	-0.80385	2.013397	1.843035	1.703025	1.585462	1.431896	1.389731	1.550795	1.474735
Bangladesh	-1.10869	-1.23496	-1.36123	-1.44282	-1.49654	-1.3876	-1.43426	-1.05608	-1.03457	-1.06978	-1.05712	-1.08731	-0.84984	-0.88707	-0.88694
Belarus	-0.38342	-0.54336	-0.7033	-0.59236	-0.80024	-0.75399	-0.62027	-0.6594	-0.62888	-0.62822	-0.6941	-0.67945	-0.5175	-0.47123	-0.30493
Belgium	1.496779	1.498342	1.499904	1.419816	1.379904	1.385844	1.309614	1.355735	1.37489	1.460206	1.527498	1.575072	1.608068	1.673882	1.573292
Bolivia	-0.46021	-0.67991	-0.89962	-0.81514	-0.77584	-0.73624	-0.43457	-0.40371	-0.52322	-0.63032	-0.46576	-0.56942	-0.7292	-0.58992	-0.63013
Brazil	0.040204	0.060631	0.081059	0.091483	0.023013	-0.13979	-0.10904	-0.07593	0.00789	-0.06931	0.04628	0.165902	-0.03728	-0.08471	-0.33845
Bulgaria	-0.13333	-0.14385	-0.15437	-0.02876	0.108177	0.057295	-0.07074	-0.1835	-0.25468	-0.21257	-0.1851	-0.22032	-0.22786	-0.26729	-0.24687
Burundi	-0.80422	-0.8136	-0.82299	-0.89534	-0.89226	-0.93002	-1.0956	-1.16076	-1.09077	-1.12948	-1.16546	-1.18713	-1.45294	-1.40969	-1.25865
Cambodia	-0.95837	-0.98415	-1.00994	-0.99476	-1.06173	-1.20975	-1.25365	-1.14504	-1.23138	-1.17474	-1.24303	-1.23874	-1.0701	-1.05243	-1.13776
Canada	2.115544	2.075198	2.034852	1.986542	1.827714	1.879261	1.962554	2.0009	2.002689	2.061789	2.069799	1.977883	1.927136	1.886833	1.836426
Chad	-1.10648	-1.12703	-1.14759	-1.37436	-1.38043	-1.50675	-1.35185	-1.38307	-1.52294	-1.40221	-1.38105	-1.32882	-1.31372	-1.35127	-1.31569
Chile	1.586007	1.589138	1.592268	1.311239	1.373608	1.470515	1.457343	1.396431	1.376727	1.380127	1.497289	1.528443	1.582224	1.541565	1.488503
China	-0.21829	-0.36827	-0.51825	-0.35945	-0.55969	-0.60873	-0.51458	-0.58965	-0.5203	-0.51494	-0.56164	-0.50711	-0.4357	-0.35835	-0.34007
Colombia	-0.39675	-0.31746	-0.23817	-0.17899	-0.12893	-0.13226	-0.12255	-0.21596	-0.23762	-0.30945	-0.38539	-0.28879	-0.38745	-0.40521	-0.36863
Costa Rica	0.872909	0.77022	0.66753	0.749755	0.42283	0.483341	0.444859	0.516526	0.551821	0.752068	0.70816	0.648954	0.618262	0.625901	0.75544
Cyprus	1.121261	1.141499	1.161737	1.233545	0.890233	0.906869	1.093416	1.080966	1.204644	0.912045	0.974874	0.866362	1.251134	1.245758	1.075781
Czech Republic	0.210977	0.29535	0.379723	0.507431	0.435704	0.487308	0.356585	0.302603	0.358294	0.38621	0.331639	0.341793	0.272268	0.228799	0.367795
Denmark	2.39476	2.382309	2.369858	2.422121	2.43181	2.288495	2.469991	2.446026	2.393064	2.446495	2.358993	2.404429	2.381079	2.404901	2.24726
Dominican Republic	-0.72141	-0.59874	-0.47608	-0.70305	-0.5852	-0.69018	-0.70096	-0.74767	-0.72597	-0.77807	-0.84363	-0.8121	-0.85996	-0.87459	-0.8161
Ecuador	-0.89424	-0.89016	-0.88609	-0.75858	-0.7033	-0.71296	-0.75131	-0.77182	-0.6871	-0.80422	-0.7731	-0.70845	-0.57806	-0.57095	-0.75493
Egypt	-0.55357	-0.48146	-0.40935	-0.55283	-0.64714	-0.62445	-0.74749	-0.76202	-0.77913	-0.51547	-0.63137	-0.6955	-0.59809	-0.63131	-0.62481
El Salvador	-0.5151	-0.59741	-0.67973	-0.36735	-0.42486	-0.45479	-0.29629	-0.37198	-0.36173	-0.25038	-0.27694	-0.26191	-0.41272	-0.3539	-0.37687
Fiji	0.31359	0.304892	0.296194	0.056585	0.158495	-0.30172	0.008832	-0.04659	-0.04813	-0.34242	-0.45909	-0.12588	-0.1101	-0.1211	0.179258
Finland	2.443092	2.43624	2.429387	2.437771	2.435115	2.325073	2.464972	2.40055	2.33726	2.251192	2.159788	2.198592	2.235261	2.202126	2.165775
France	1.368257	1.298303	1.228348	1.349144	1.330429	1.366185	1.463727	1.464608	1.407428	1.438242	1.46638	1.532394	1.455788	1.329576	1.314697
Gabon	-0.71152	-0.65113	-0.59074	-0.63199	-0.84656	-0.67106	-0.97276	-1.06324	-1.07896	-1.00302	-0.86717	-0.88864	-0.69981	-0.65776	-0.69162
Germany	1.861064	1.900277	1.939489	1.929958	1.862092	1.885013	1.803052	1.73584	1.759813	1.755258	1.77627	1.743273	1.829577	1.813811	1.83838
Ghana	-0.101	-0.21495	-0.3289	-0.25448	-0.25316	-0.36714	-0.02105	0.039047	-0.07054	-0.00721	0.011523	-0.02571	-0.12657	-0.09662	-0.19219
Greece	0.659286	0.541709	0.424131	0.388841	0.46496	0.358235	0.363786	0.267383	0.13356	0.06747	-0.05778	-0.09882	-0.18922	-0.04531	-0.12239
Guatemala	-0.75402	-0.69972	-0.64541	-0.76665	-0.60927	-0.66652	-0.80573	-0.74218	-0.64765	-0.52686	-0.53221	-0.52798	-0.65876	-0.62266	-0.73596
Haiti	-1.24322	-1.46435	-1.68549	-1.72225	-1.47426	-1.37346	-1.3112	-1.27991	-1.20673	-1.08797	-1.18716	-1.2232	-1.23577	-1.13049	-1.2339
Honduras	-0.95489	-0.9629	-0.97091	-0.9235	-0.89337	-0.81171	-0.83195	-0.78845	-0.90488	-0.90435	-0.89202	-0.8252	-0.95406	-0.94549	-0.78544
Hungary	0.787683	0.685784	0.583885	0.680982	0.693373	0.654349	0.658724	0.622806	0.471792	0.433832	0.36565	0.399596	0.356334	0.321603	0.16456
Iceland	2.267266	2.25938	2.251494	2.28839	2.190967	2.311686	2.183154	2.208236	2.343693	2.04152	1.942624	1.939586	1.886239	1.912274	1.827839
India	-0.34555	-0.43071	-0.51588	-0.41657	-0.41115	-0.36078	-0.27644	-0.39811	-0.33718	-0.45197	-0.46812	-0.53628	-0.51324	-0.51744	-0.42802
Indonesia	-0.91907	-1.03156	-1.14404	-0.96973	-0.93215	-0.8782	-0.83842	-0.61902	-0.5937	-0.83865	-0.75136	-0.70187	-0.63979	-0.61382	-0.56177
Iraq	-1.50058	-1.4544	-1.40822	-1.21363	-1.48477	-1.37402	-1.44843	-1.46048	-1.46225	-1.32699	-1.25881	-1.17065	-1.21734	-1.27774	-1.33376
Ireland	1.432767	1.420854	1.40894	1.459252	1.289458	1.593498	1.71035	1.748592	1.749867	1.759452	1.688269	1.562963	1.463658	1.538592	1.60488
Italy	0.729157	0.637994	0.54683	0.512423	0.375703	0.410525	0.483805	0.336824	0.270141	0.199061	0.126923	0.181864	0.066175	0.051636	-0.02964
Japan	1.273968	1.121282	0.968595	1.210685	1.218695	1.218508	1.329219	1.238238	1.335973	1.377338	1.560462	1.561262	1.627003	1.65568	1.694595
Jordan	0.0838	0.015827	-0.05215	0.314559	0.255592	0.256805	0.259316	0.264059	0.356088	0.158885	0.041186	0.101029	0.072144	0.067913	0.13568
Kazakhstan	-1.12397	-1.11749	-1.111	-1.02636	-1.09596	-1.01412	-0.9921	-0.99007	-0.97829	-0.93312	-0.99786	-0.99149	-0.91914	-0.929	-0.83044
Kenya	-1.05617	-1.02624	-0.9963	-0.88034	-0.85619	-0.9964	-0.93328	-0.97095	-1.0551	-1.05996	-0.91003	-0.9502	-1.09352	-1.03127	-0.9333
Korea, Rep.	0.322625	0.412943	0.50326	0.558381	0.388703	0.623883	0.348367	0.602055	0.470144	0.535072	0.469492	0.528293	0.535167	0.614448	0.547561
Kuwait	0.590601	0.802348	1.014095	0.799126	0.786469	0.507472	0.433033	0.370586	0.420186	0.309361	0.302229	0.086253	-0.19046	-0.18834	-0.24032
Kyrgyz Republic	-0.90313	-0.94656	-0.99	-0.98363	-1.10485	-1.25339	-1.3179	-1.31999	-1.22245	-1.30589	-1.17323	-1.21884	-1.14959	-1.16288	-1.12794
Laos	-0.88597	-1.01888	-1.15178	-1.18208	-1.23654	-1.30248	-1.31459	-1.26978	-1.19702	-1.23869	-1.19347	-1.17713	-1.01936	-0.93391	-0.84905
Latvia	-0.07221	-0.02774	0.01674	0.276996	0.184778	0.37962	0.369864	0.352404	0.254886	0.226274	0.228307	0.286648	0.245459	0.328416	0.415365
Libya	-0.86732	-0.90881	-0.95031	-0.88471	-0.9083	-0.96246	-1.08407	-1.04579	-0.95315	-1.208	-1.28827	-1.30197	-1.36377	-1.48179	-1.56498
Lithuania	0.357433	0.279783	0.202133	0.378916	0.428587	0.328052	0.161695	0.130149	0.139662	0.231553	0.376732	0.327106	0.393994	0.426033	0.558858
Luxembourg	2.04844	2.055883	2.063325	1.692841	1.844499	1.656579	1.882664	1.971466	1.971972	1.973333	2.046461	2.159844	2.122712	2.123356	2.073182
Macedonia	-0.59865	-0.69949	-0.80034	-0.63587	-0.50043	-0.44885	-0.36725	-0.35906	-0.19166	-0.13182	-0.08091	-0.09093	-0.04092	-0.04541	-0.02204
Malawi	-0.27188	-0.61503	-0.95818	-0.73126	-0.76812	-0.70995	-0.5494	-0.51442	-0.44566	-0.40462	-0.48718	-0.41694	-0.47162	-0.6074	-0.75113
Malaysia	0.337019	0.306009	0.274999	0.343969	0.337764	0.195066	0.234054	0.192051	-0.04731	-0.05648	0.089267	0.029488	0.237634	0.350176	0.411159
Malta	0.95747	0.88031	0.80315	0.954563	0.848168	0.824055	1.010357	1.023427	0.99796	0.772958	0.790017	0.766043	0.943218	0.9835	0.851744
Mauritania	-0.45374	-0.23952	-0.0253	-0.03112	-0.52652	-0.56022	-0.74244	-0.57871	-0.78782	-0.61336	-0.71536	-0.62813	-0.78256	-0.83364	-0.92755
Mauritius	0.383774	0.421196	0.458618	0.300812	0.254528	0.31522	0.348455	0.438277	0.51531	0.539207	0.559522	0.536861	0.303542	0.292628	0.351374
Mexico	-0.24563	-0.21324	-0.18086	-0.16708	-0.30395	-0.27101	-0.26117	-0.27264	-0.2447	-0.30102	-0.36155	-0.40212	-0.41182	-0.51201	-0.76171
Mongolia	-0.30979	-0.15847	-0.00715	-0.20176	-0.39802	-0.61098	-0.58464	-0.61485	-0.6612	-0.75866	-0.73519	-0.6921	-0.53508	-0.47923	-0.47379
Morocco	-0.10973	-0.14866	-0.18759	-0.26004	-0.14328	-0.30789	-0.40849	-0.34491	-0.38244	-0.3256	-0.20491	-0.40082	-0.43676	-0.37111	-0.26568
Mozambique	-0.43107	-0.47087	-0.51068	-0.59718	-0.60297	-0.53248	-0.61717	-0.51541	-0.49202	-0.43734	-0.44674	-0.49108	-0.56835	-0.60352	-0.67227
Myanmar	-1.38762	-1.35196	-1.3163	-1.48189	-1.6461	-1.53721	-1.65795	-1.62511	-1.61643	-1.66042	-1.67288	-1.58677	-1.06333	-1.0001	-0.88217
Nepal	-0.66668	-0.51209	-0.3575	-0.4583	-0.87096	-0.74339	-0.69369	-0.78832	-0.80866	-0.70258	-0.69248	-0.77894	-0.81301	-0.68696	-0.58824
Netherlands	2.206632	2.164671	2.12271	2.052378	1.998249	1.970572	2.050479	2.169937	2.118235	2.134323	2.143759	2.120604	2.117599	2.046002	1.990494
Oman	0.797525	0.866076	0.934627	0.590148	0.67339	0.394656	0.352167	0.350805	0.515381	0.332337	0.323707	0.139554	0.182281	0.159496	0.310048
Pakistan	-0.84104	-0.87467	-0.9083	-0.76218	-1.08252	-1.05314	-0.81358	-0.81673	-0.89507	-1.06916	-1.08739	-1.07629	-1.06292	-0.95636	-0.83383
Paraguay	-1.37977	-1.35782	-1.33587	-1.39424	-1.37337	-1.32124	-1.14073	-1.1835	-0.9772	-0.80364	-0.72903	-0.71576	-0.85752	-1.03792	-0.96966
Peru	-0.393	-0.33306	-0.27312	-0.07642	-0.32176	-0.32996	-0.20019	-0.24627	-0.18695	-0.30523	-0.22881	-0.21996	-0.37045	-0.42349	-0.56032
Philippines	-0.51049	-0.50525	-0.50001	-0.58408	-0.64893	-0.6163	-0.83026	-0.71978	-0.75621	-0.76828	-0.76049	-0.66712	-0.56286	-0.38096	-0.43706
Poland	0.710839	0.556368	0.401897	0.424402	0.138824	0.266916	0.274151	0.299164	0.461351	0.445084	0.49708	0.557022	0.663234	0.596016	0.635148
Portugal	1.190105	1.222709	1.255313	1.158951	1.143963	1.069998	1.016922	1.036281	1.070165	1.092931	1.090371	1.112964	0.960238	0.950478	0.947626
Qatar	0.530614	0.607758	0.684903	0.535744	0.519322	0.712574	0.93062	0.677207	0.942743	1.567186	1.406557	1.008177	1.060762	1.110863	0.988537
Romania	-0.49128	-0.46771	-0.44413	-0.37491	-0.29587	-0.24165	-0.16389	-0.18271	-0.14284	-0.26255	-0.22653	-0.21326	-0.2634	-0.18798	-0.11262
Russian Federation	-0.99524	-0.96231	-0.92937	-0.76131	-0.79827	-0.82323	-0.91089	-1.01379	-1.115	-1.13205	-1.09053	-1.06502	-1.04234	-1.01337	-0.91923
Saudi Arabia	-0.18966	0.004538	0.19874	-0.15223	-0.28697	-0.09748	-0.19036	-0.16516	-0.0084	-0.01659	0.040547	-0.30503	-0.03861	-0.02046	0.087325
Serbia	-1.17721	-1.02201	-0.86681	-0.49091	-0.49627	-0.41252	-0.29276	-0.35311	-0.3121	-0.31244	-0.29471	-0.27336	-0.3297	-0.30093	-0.227
Singapore	2.208549	2.264765	2.32098	2.228928	2.32558	2.16617	2.185165	2.241867	2.247644	2.217089	2.179523	2.109704	2.124057	2.078066	2.071365
Slovak Republic	0.225815	0.109583	-0.00665	0.310931	0.394147	0.491947	0.422382	0.349663	0.362119	0.270355	0.294601	0.275088	0.096679	0.083146	0.162737
Slovenia	0.884799	0.845805	0.806811	0.927806	1.033518	0.909938	1.034196	1.009254	0.981919	1.058566	0.922868	0.948807	0.839747	0.729322	0.726777
South Africa	0.625336	0.489926	0.354517	0.354515	0.46451	0.568106	0.452249	0.248784	0.211264	0.182197	0.131468	0.061732	-0.11558	-0.07005	-0.06154
Spain	1.374994	1.365547	1.3561	1.393117	1.35659	1.336209	1.185721	1.086643	1.190226	1.0622	1.084354	1.104124	1.128226	0.903093	0.629842
Sri Lanka	-0.183	-0.1833	-0.18359	-0.22623	-0.14582	-0.33979	-0.20008	-0.15295	-0.22521	-0.39743	-0.42135	-0.39327	-0.23679	-0.21487	-0.34386
Suriname	0.477831	0.378778	0.279725	0.330451	0.27655	0.222951	-0.09834	-0.00742	-0.02105	-0.257	-0.3299	-0.2774	-0.3339	-0.27539	-0.44328
Sweden	2.29683	2.277112	2.257393	2.20724	2.156202	2.022613	2.196596	2.244637	2.227349	2.253191	2.274587	2.196957	2.312869	2.291621	2.153375
Switzerland	2.114552	2.113864	2.113175	2.06927	2.008047	2.019937	2.093455	2.150764	2.124064	2.070191	2.072074	2.035801	2.14676	2.13242	2.151519
Syrian Arab Republic	-1.02609	-0.71052	-0.39495	-0.79847	-0.82135	-0.84805	-1.06115	-1.10475	-1.15109	-1.12941	-1.13433	-1.09298	-1.213	-1.25899	-1.55317
Tajikistan	-1.27529	-1.22108	-1.16688	-1.1429	-1.28829	-1.16966	-1.03387	-1.03695	-1.18186	-1.21498	-1.29106	-1.21826	-1.27563	-1.2844	-1.12714
Thailand	-0.18699	-0.24951	-0.31203	-0.17306	-0.22524	-0.1906	-0.38426	-0.3695	-0.40779	-0.30971	-0.33386	-0.32346	-0.36616	-0.34356	-0.45027
Trinidad and Tobago	0.240538	0.110481	-0.01958	0.057676	-0.02611	0.01581	-0.10798	-0.04337	-0.0644	-0.04109	-0.17385	-0.10966	-0.15537	-0.21662	-0.41355
Tunisia	-0.23122	0.069361	0.369942	0.159738	0.082865	-0.25789	-0.18928	-0.24961	-0.3039	-0.22096	-0.25879	-0.05676	-0.05972	-0.06704	-0.03688
Turkey	-0.19721	-0.35952	-0.52182	-0.18386	-0.17514	-0.03131	0.027346	0.105276	0.11236	0.08778	0.029263	0.044217	0.157739	0.092246	-0.14794
Ukraine	-1.14997	-1.10162	-1.05328	-0.92834	-0.93339	-0.7219	-0.75082	-0.79742	-0.8385	-1.03939	-1.02705	-1.04999	-1.07738	-1.13152	-0.9942
United Kingdom	2.139308	2.097487	2.055666	2.039183	1.933308	1.901079	1.792327	1.742208	1.682487	1.632727	1.604827	1.616091	1.674153	1.699135	1.738478
United States	1.657759	1.790899	1.924038	1.755439	1.832575	1.545693	1.353316	1.385467	1.450212	1.294352	1.271479	1.269101	1.41072	1.313262	1.376068
Uruguay	0.925141	0.91889	0.91264	1.050345	0.898615	1.074672	1.114514	1.243985	1.308401	1.238403	1.279333	1.27888	1.355477	1.375125	1.378793
Venezuela	-0.6735	-0.86787	-1.06225	-1.06403	-0.98157	-1.02894	-1.04251	-1.11323	-1.16722	-1.19218	-1.22752	-1.17389	-1.26817	-1.31403	-1.39956

Political constraint index

Political constraint index	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014
Afghanistan	1														4
Albania	5	5	6	6	6	7	7	7	7	7	7	7	7	7	7
Argentina	6	6	6	6	6	6	7	6	6	6	6	6	6	6	6
Australia	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7
Austria	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7
Bangladesh	5	5	5	5	5	5	5	2	2	5	5	5	5	5	3
Belarus	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2
Belgium	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7
Bolivia	7	7	7	7	7	7	7	7	7	6	6	6	6	6	6
Brazil	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6
Bulgaria	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7
Burundi	3					6	6	6	6	6	6	6	6	6	6
Cambodia	4	4	4	4	4	4	4	4	4	4	4	4	4	5	5
Canada	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7
Chad	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2
Chile	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7
China	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3
Colombia	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6
Costa Rica	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7
Cyprus	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7
Czech Republic	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7
Denmark	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7
Dominican Republic															
Ecuador	6	6	6	6	6	6	6	4	4	4	4	4	4	4	4
Egypt	3	3	3	3	3	3	3	3	3	3	3	2		3	3
El Salvador	5	5	5	5	5	5	5	5	5	6	6	6	6	6	6
Fiji		6	6	6	6	6	3	2	2	2	2	2	2	2	4
Finland	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7
France	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6
Gabon	2	2	2	2	2	2	2	2	2	4	4	4	4	4	4
Germany	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7
Ghana	4	6	6	6	6	6	6	6	6	6	6	6	6	6	6
Greece	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7
Guatemala	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6
Haiti	3	3	3	3			6	6	6	6					
Honduras	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5
Hungary	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7
Iceland															
India	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7
Indonesia	6	6	6	6	6	6	6	6	6	6	6	6	6	6	7
Iraq	1	1	1								4	4	4	4	6
Ireland	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7
Italy	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7
Japan	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7
Jordan	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3
Kazakhstan	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2
Kenya	3	3	6	6	6	6	6	6	7	7	7	7	7	7	7
Korea															
Kuwait	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3
Kyrgyz Republic	4	4	4	4	4	4	5	4	4	3		7	7	7	7
Laos	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3
Latvia	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7
Libya	1	1	1	1	1	1	1	1	1	1	1				
Lithuania	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7
Luxembourg	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7
Macedonia	5	5	7	7	7	7	7	7	7	7	7	7	7	7	7
Malawi	5	4	4	5	6	6	6	6	6	6	6	6	6	6	6
Malaysia	4	4	4	4	4	4	4	4	5	5	5	5	5	5	5
Malta															
Mauritania	3	3	3	3	3	3	3	5	2	2	2	2	2	2	2
Mauritius	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7
Mexico	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6
Mongolia	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7
Morocco	3	3	3	3	3	3	3	3	3	3	3	4	4	4	4
Mozambique	4	4	4	4	4	4	4	4	4	4	4	4	4	5	5
Myanmar	3	3	3	3	2	2	2	2	2	2	2	3	3	3	3
Nepal	6	6	1	1	1	1	6	6	6	6	6	6	6	6	6
Netherlands	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7
Oman	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2
Pakistan	1	1	2	2	2	2	2	4	5	5	6	6	6	6	6
Paraguay	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7
Peru		7	7	7	7	7	7	7	7	7	7	7	7	7	7
Philippines	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6
Poland	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7
Portugal	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7
Qatar	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
Romania	6	6	6	6	7	7	7	7	7	7	7	7	7	7	7
Russian Federation	5	5	5	5	5	5	5	4	4	4	4	4	4	4	4
Saudi Arabia	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
Serbia							7	7	7	7	7	7	7	7	7
Singapore	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3
Slovak Republic															
Slovenia	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7
South Africa	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7
Spain	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7
Sri Lanka	5	6	6	5	5	5	5	5	5	5	4	4	4	4	4
Suriname															
Sweden	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7
Switzerland	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7
Syrian Arab Republic	3	3	3	3	3	3	3	3	3	3	3	3	1	1	1
Tajikistan	4	4	4	3	3	3	3	3	3	3	3	3	3	3	3
Thailand	7	7	7	7	7	7	3	4	5	5	5	6	6	6	3
Trinidad and Tobago															
Tunisia	3	3	2	2	2	2	2	2	2	2	2				6
Turkey	7	7	7	7	7	7	7	7	7	7	7	7	7	7	4
Ukraine	5	5	5	5	5	5	6	6	6	6	5	5	5	5	5
United Kingdom	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7
United States	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7
Uruguay	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7
Venezuela	5	5	5	5	5	5	4	4	4	3	3	3	3		

Government finance

Net investment in non-financial assets (% GDP)

Net investment in nonfinancial assets (% of GDP)	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014
Afghanistan							11.04059239	9.421315336	39.30124332	28.80140899	31.2491803	34.71045961	24.39009637	22.62605586	14.97037115
Albania			6.50541989	4.525850515	5.088668579							5.109592465	4.395389929	3.912928177	4.03415202
Argentina	0.116923158	0.104690511	0.110307761	0.206703605	0.334188666										0.67717001
Australia	0.181430532	0.180911111	0.323101349	0.31163037	0.403852525	0.72469588		0.802196941	0.830627938	0.960500738	1.12910762	0.981884701	0.924438803	0.585703463	0.832948985
Austria	1.176729283	1.207944239	1.184950446	1.125447388	1.156645399	1.66717288		1.862394467	2.010301472	1.948209166	1.91697006	1.825326302	1.69686754	1.776325661	1.625036757
Bangladesh		1.920778343	1.768095306	1.934535809	2.087144855	2.19397856	2.002853333	1.580185166	1.302754301	1.462538822	1.69583865	1.709011553	1.984522351	2.157956457	2.568663212
Belarus	3.273007948	2.43204528	0.819295823	2.242044808	2.347282954	3.30298722	3.270022834	3.162023564	2.56879136	2.184397514	1.56394921	0.944327817	1.331661361	1.296694367	1.049304567
Belgium	0.348304947	0.288086312	0.25990211	0.258777617	0.240399745	0.2195641	-0.06633766	0.279740363	0.391000658	0.414500671	0.34637038	0.401734289	0.415432151	0.35010468	0.24458929
Bolivia	3.094255077	1.813467317	2.008399342	2.171441892	2.6050571	3.78089779	2.845011057	2.961383678							
Brazil	-0.009324736	-0.01377755	-0.00895394	0.302552776	0.502514516	0.6110773	0.69728363	0.792662348	0.897471612	1.01649865	0.76561693	0.494218494	0.466033556	0.547509183	0.562972894
Bulgaria	3.287258574	3.325563396	2.750374192	2.595623365	2.747559091	2.6539281	2.961649107	3.672548216	3.6367731	3.00912505	3.13894369	2.337311012	2.025392368	1.851629808	1.963202896
Burundi											27.0046421	19.94849612	11.80357134	10.35727658	
Cambodia			8.12486785	6.579128317	5.626811781	4.53946807	4.511959197	5.942292849	6.520388919	8.743487798	9.41065392	8.63476637	8.505389925	8.762056318	8.01421756
Canada	0.53565921	0.447871776	0.50317289	0.477799595	0.477021105	0.48608778	0.474465004	0.458649713	0.278294875	0.575360557	0.57474411	0.520248915	0.544818763	0.468924898	0.122250249
Chad															
Chile	2.134997862	2.147732653	2.10854613	1.915032777	1.704284511	1.71868471	1.652042359	1.958320997	2.122253393	2.507654729	2.07847233	2.117186111	2.03249405	1.943279329	1.982486586
China														0.061319349	0.05202073
Colombia	1.683501968			0.661570513					3.768518831	4.352094831	1.51342297	1.093972195	-2.113806	1.94605593	1.746325084
Costa Rica	1.630025141	1.39487928	1.847525125	0.940869448	1.133295922	1.00857296	0.951050619	1.316556037	3.583616008	2.004145499	1.47525007	1.339755976	1.383338131	1.475386483	2.098007939
Cyprus	4.679301833	4.534024975	5.089180326	5.730559553	5.365620724	4.55348328	4.446998796	3.928880013	4.304316374	3.373229443	3.5617503	3.038350624	2.099570542	0.681348364	1.472801731
Czech Republic	2.564939882	2.260553539	2.455322183	5.558710524	2.65124848	3.1262529	2.928064751	2.754551489	3.057664576	2.893922744	2.45024308	2.125934768	2.100070149	1.740502005	1.541637757
Denmark	1.543131722	1.29060623	1.400227332	1.353331231	1.421048193	1.25745279	1.365127864	1.739142937	1.622175224	1.621874606	1.78488795	1.711288494	2.040842173	2.010802844	2.199513922
Dominican Republic	2.100263833	2.429472687	2.434919388	1.545433012	2.21937406	2.07356724	2.58637966	3.031840317	3.924452494	2.67979077	3.01613394	2.905299624	5.16378818	2.874172668	2.166450318
Ecuador															
Egypt			4.856954342	4.599520958	4.263754379	3.74423398	2.886352598	2.834787863	3.829927415	4.171943965	4.0165755	2.919261906	2.147190542	2.130133305	2.484553991
El Salvador	1.530853685	1.926312662	3.323544499	2.956834698	2.649945436	3.55014254	2.40564208	1.895748426	1.725145734	1.624282679	1.4950193	2.049253933	1.209247941	2.271879098	2.380365372
Fiji						2.85226966	2.175356839				3.23183668	3.519249638	3.300510937	2.540265245	3.078032428
Finland	1.895762005	1.603380694	1.768222536	1.825902929	2.008549261	1.81231347	1.522663666	1.654391224	1.639784338	1.823095147	1.60801215	1.61279318	1.767765821	1.774428968	1.724916002
France	1.703114802	1.741581069	1.821858651	1.819869918	1.767292501	1.7267067	1.599219977	1.545720526	1.567321495	1.84505237	1.92107509	1.696683151	1.682493906	1.632353087	1.574032511
Gabon															
Germany	-1.805235971	0.590599371	0.563332844	0.623623426	0.557813756	0.63197402	0.645271022	0.534978874	0.587637282	0.739940772	0.53655878	0.713682165	0.738884741	0.661653037	0.59904104
Ghana											6.61958662				
Greece	4.676196368	4.799143066	4.932070417	5.822646443	5.259766503	3.92537104	3.822151869	4.07014185	4.638613957	4.100883476	2.79651353	2.010347587	1.953934959	4.077401405	3.311382839
Guatemala	1.227856873	1.124121818	0.928625768	0.713514466	0.657755497	0.80587715	1.607406346	1.781903435	1.88191812	1.755069408	1.84257416	1.761529914	0.940379867	-0.82689515	0.941342498
Haiti															
Honduras				2.949002155	2.7578905	2.77952232	1.803498022	2.287136207	2.987155172	3.092236684	2.15382611	2.02876215	1.87231908	2.940925256	2.290876239
Hungary	1.935187775	2.379945592	3.022769833	1.843813741	2.124871108	2.51983167	3.169317569	2.788555422	1.871243376	2.007409458	1.49621671	1.59444617	2.47376539	2.759030236	3.448736128
Iceland	1.547556464	1.948693651	1.753426446	2.044019995	1.724174825	1.27121734	1.303473676	1.645464277	1.987043554	1.965260325	1.44347537	0.773014212	0.835953479	1.57557729	1.81994977
India	0.143273888	-0.08295544	0.281536242	-0.22005029	0.289869551	0.4825627	0.460572068	-0.28727645	0.560903993	0.133046499	0.1962662	0.246556657	0.22666905	0.049005113	
Indonesia			2.025437672	3.404307377	2.628523884				1.468671983	1.351055163	1.16610938	1.501903923	1.67632258	1.889319802	1.465370135
Iraq															15.7940424
Ireland	0.945571466	1.059548184	1.115165074	0.935058875	0.871975324	1.06123579	1.158066758	1.506974533	2.234179574	1.416521994	1.45200072	1.256839335	1.204993383	1.341077685	1.830956101
Italy	-0.020223293	1.060645007	0.454891888	1.03720979	0.960468741	1.06241777	1.041082906	1.104970654	1.204105573	1.548018407	1.3056607	1.31625561	1.01941114	0.969489089	1.008659631
Japan	1.547637581	1.448341794	1.473023891	1.411270881	1.302121024	1.34729214	1.277938778	1.242551556	1.30339838	1.468679329	1.24793671	1.257060063	1.217640636	1.397245812	1.255516895
Jordan									1.841789358	6.356296757	3.56038434	4.143756965	2.160209013	3.114252699	
Kazakhstan	-0.285678696	0.401688886	1.494474572	1.909753073	1.988690685						1.40188698	1.286886567	1.250439665	1.401653253	1.237770162
Kenya															5.157665176
Korea, Rep.	1.254142497	1.259974172	1.053451924	1.263625067	2.108151964	1.09274076	0.946385432	1.632116242	1.66312184	1.095213821	1.04649579	0.973676671	1.789188727	1.790442643	1.769719419
Kuwait		4.008971124	3.960310613	4.016261302	3.790603414				4.152700656	4.767373187	6.18819738	4.74458736	4.281415864	4.128190541	5.101015666
Kyrgyz Republic														4.546867278	5.974054016
Laos									7.578879718	6.594432957	10.4243987	9.861282304	10.49492054	8.9267035	8.715436216
Latvia	1.619118976	1.368720364	1.217558917	2.669817929	3.543718001	3.39883398	5.314066088	5.351517815	3.354254553	2.113660664	2.174213	3.473248339	3.578983118	3.161646232	3.375480719
Libya															
Lithuania	0.58584018	0.363217617	0.549521372	0.607230456	0.729415739	0.808728	0.900155299	1.078198122	1.007746799	0.804358421	0.74083392	0.682749102	0.564792282	0.621628326	0.609329881
Luxembourg	2.260264871	0.953654243	2.829237603	3.144354678	2.982868481	3.20050854	2.391707161	2.206027181	2.295464392	2.704072966	3.26723367	2.719584449	2.656266949	2.205678935	2.325741557
Macedonia						1.77834695	1.947968151	2.456714571	2.911133071	1.998446778	1.70753906	2.226047317	3.069189613	2.542036271	2.531626538
Malawi										5.580219686	5.95663864	5.336313212	5.205331941	5.441955703	4.411098578
Malaysia	5.089772475	7.426250571	9.02007244	9.340471716	6.205054752	5.63028673	5.942392796	6.080372439	5.594619746	6.716061523	6.24051251	5.218900709	4.813181749	4.112254004	3.563329516
Malta	8.46226184	7.372879583	8.710920711	10.32032671	6.948442155	8.68347301	8.487970527	7.29779255	2.179513491	1.980955017	2.05441298	2.481583109	3.058955025	2.621256258	3.298976898
Mauritania															
Mauritius	1.610271969	2.777227409	3.011664889	3.989964171	3.342653173	2.50781882	2.233409611	1.749376007	1.815242705	2.14813063	3.03964515	3.343263359	3.478114555	3.799562027	3.025031755
Mexico	0.391428754								0.506615579	0.645386029	0.65553343	0.743910519	0.697048473	0.590188478	0.736236047
Mongolia	2.198336245	3.03553868	5.557829483	7.309495693			11.74767549	8.337670935	8.879968867	6.483289994	5.21384354	8.381305064	7.666019486	5.648545305	5.615161402
Morocco			3.076023972	2.754224939	2.995820173	3.33456044	3.287650687	3.331888103	4.121268676	4.511558966	3.95809422	4.460340402			
Mozambique											7.28754527	7.820380389	7.061734388	10.55257565	
Myanmar				4.593230903	4.800775774	5.35104219							7.597761876	7.644854185	6.917237442
Nepal											3.86815851	3.603911617	3.356923522	3.201366245	3.384239126
Netherlands	1.07333318	1.869081755	1.975207722	1.926708126	1.712748853	1.44405	1.529064281	1.50511275	1.606984798	1.755226354	1.77239426	1.669309958	1.542799091	0.894076557	1.397598488
Oman	5.771538277	6.857593625	6.861289365	7.585775769	9.8344816	7.42029956	8.040113212	10.07984279	9.448247296	14.3340876	11.4058897	11.26559988	9.748363686	10.24578281	
Pakistan	1.778411552	1.315241576	1.881484616	1.622020294	1.619762507	1.86309325	2.754401083	2.459710647	2.457676288	2.055954727	2.15031335	1.207483514			
Paraguay						1.92319356	1.990782597	1.918071199	1.443074536	2.406071746	2.27360539	2.334796705	2.70419074	2.817760083	2.864000116
Peru	1.761396358	1.2328587	0.755717703	1.436891018	1.184021761	1.34221871	1.049295943	1.12399706	1.279370032	1.749030952	2.0661146	2.014796241	1.642068714	1.617688848	2.00246724
Philippines	2.438061057	1.948440999	2.222304086	1.705524748	1.831582564	1.59276132	1.581845173	2.108020837	2.23030899	2.590285179	2.47682008	1.638798542	2.22036762	2.269298709	2.184430262
Poland	0.17067542	1.173883778	1.252502723	1.327769437	1.443633971	1.70616315	1.844602477	2.450141251	2.552973441	2.390162424	2.75015948	3.139982538	2.47878853	1.912975777	2.002518943
Portugal	2.256204847	2.650016688	1.866937952	2.335355253	2.675954717	2.14700855	1.95343164	1.631328001	1.033293073	2.536028442	3.54887313	2.054403072	1.338044361	1.038422162	1.05804054
Qatar					7.164158565	11.0102208	8.011950334	13.54877267	9.352863686	12.79241635	12.5583015				
Romania	3.274303509	2.507369396	2.68040359	2.804019499	2.125568247	2.30742115	3.525892907	3.486022855	4.154039928	3.728182196	3.56214286	2.598307004	2.280755484	2.384823423	2.151468636
Russian Federation	1.065045992	1.778478465	2.175176847	2.33863814	0.206101305	1.21855094	1.841944833	3.951876081	8.125872161	1.674946917	3.0929527	5.194870643	2.976502962	2.417893916	2.631025523
Saudi Arabia															
Serbia								2.886730629	1.891982996	1.461046458	1.75085653	1.620881309	1.85237464		
Singapore	-1.073734836	0.69448742	0.483508767	0.573387031	0.529011433	-0.78981865	-1.31241084	-4.03502602	-1.73321313	1.195606343	-3.14243871	-4.88670489	-3.41465456	-3.22469044	-2.25572176
Slovak Republic	3.074077428	3.406749665	2.752200506	2.323756062	2.286037076	2.40919594	2.539222738	2.178106972	2.347614102	2.646516698	2.2439699	2.394288433	2.405370701	2.630731213	2.877778457
Slovenia	2.172630281	1.894521267	2.228385305	2.350014207	2.562381104	2.25106567	2.614387685	2.923909632	2.678414037	2.691905508	2.5175139	2.297899746	2.185907631	2.560790476	2.237093501
South Africa	0.496965099	0.627255904	0.554357515	0.596306965	0.526606994	0.63815614	0.614602588	0.583076006	0.662498211	0.597564958	0.67427608	0.779413244	0.98984485	0.91006035	1.007681499
Spain	1.160232108	1.1284752	1.161369193	1.173034032	1.388985628	1.3170479	1.314617242	1.394698591	1.495307846	1.509751152	1.41599634	1.227148608	0.908430827	0.752759354	0.662928061
Sri Lanka	2.615701204	2.558480259	1.590254665	1.979403754	1.929462833	3.590209	2.984162958	3.100717358	2.920795469	2.968010418	2.46735565	2.799695696	2.01238757	2.63273258	2.265182263
Suriname		1.986802574	1.731533613	1.31793662	2.3957902	3.11597651	2.025846669	2.454462647	2.29380026	3.681341524	2.94773716	4.369782113	4.43218149		
Sweden	2.381784589	2.476665873	2.597012463	2.625785917	2.65732421	2.56614954	2.513325725	2.418523451	2.441286587	2.589136901	2.61551582	2.465748704	2.481654364	2.368279977	2.244744516
Switzerland	0.626429548	0.688433127	0.744723097	0.722026104	0.746531936	0.71782967	0.693791289	0.660644448	0.977033245	0.971054005	0.92633054	0.988611935	0.837407007	0.954201152	0.931437124
Syrian Arab Republic	10.27894341	10.83862201	13.63444082	14.23163896	12.36468833	10.2465551	10.35129547	9.655639287							
Tajikistan															
Thailand	3.863053996	3.206873398	2.844595872	2.109819323	1.791453339	2.49689929	2.341153815	2.032420345	1.738963454	2.39604154	2.70113067	2.057133443	2.083160491	2.021052484	1.995982728
Trinidad and Tobago		1.326190026	1.182625688	1.281175793	1.609636002	2.26247026	3.414025952	5.267300706	5.079606497	6.241610406	3.71067758	4.259244036	2.806638862		3.814047885
Tunisia	3.973050932	4.198258076	4.010771578	3.797496982	3.445541291	2.9796279	3.105269714	2.869819162	2.811763812	2.5520986	2.43804962	2.337491976	1.876783826		
Turkey									1.933955578	1.899941706	1.91182529	1.772554216	1.99367166	1.487715377	1.645779438
Ukraine	1.370376904	1.097996964	1.349434303	1.327527824	1.503913211	0.80214836	0.763719028	0.8782056	0.803929304	0.395951147	0.56778827	0.608751753	0.604492589	0.480432652	0.233490767
United Kingdom	0.622514647	1.093777603	1.071378324	1.122691962	1.476538653	2.09039907	1.572806445	1.477125927	1.878258812	2.053890853	1.98034404	1.767639392	1.658354226	1.623972785	1.764502232
United States	0.414690486	1.478296006	1.593621288	1.650390464	1.661019926	1.63125454	1.562303333	1.664311885	1.683158065	1.860689759	1.94113726	1.834181965	1.693473733	1.538841556	1.440564796
Uruguay	1.143209884	1.576255918	1.279518347	1.198982706	1.437154298	1.30399446	1.4057424	1.550148378	1.819770364	1.56938801	1.38769256	1.466984678	1.447656497	1.406349999	1.385884217
Venezuela															

General government final consumption expenditure (% GDP)

GGFCE	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014
Afghanistan			8.4	9.8	10.6	10.6	11.5	10.9	13.3	11.7	14.3	12.8	12.4	12.0	12.6
Albania	9.5	10.4	11.2	10.9	11.0	10.9	10.1	10.2	10.4	11.1	11.2	11.0	10.8	11.0	11.5
Argentina	13.8	14.2	12.2	11.4	11.1	12.1	12.4	13.0	13.6	15.9	15.2	15.7	16.6	16.8	16.9
Armenia	11.8	11.3	10.0	10.2	10.2	10.6	10.1	10.2	10.2	13.3	13.1	12.9	10.9	11.9	12.1
Australia	17.7	17.7	17.5	17.6	17.5	17.5	17.4	17.3	17.2	17.6	18.0	17.8	18.0	17.8	17.7
Austria	19.2	19.0	18.8	19.0	18.9	19.3	19.3	18.7	19.3	20.7	20.5	19.9	19.9	19.9	19.8
Bangladesh	5.0	4.8	5.0	5.1	5.2	5.2	5.4	5.4	5.2	5.1	5.1	5.1	5.0	5.1	5.3
Belarus	19.5	21.6	21.0	21.4	20.6	20.8	19.2	18.5	16.5	16.7	16.0	13.4	13.6	13.4	13.8
Belgium	20.9	21.3	21.9	22.4	22.0	22.1	21.9	21.6	22.6	24.0	23.6	23.8	24.3	24.5	24.3
Bolivia	14.5	15.7	16.0	16.5	16.3	16.0	14.4	14.1	13.3	14.7	13.8	13.8	13.4	13.8	14.7
Bosnia and Herzegovina			24.5	24.3	21.5	21.6	20.9	20.8	22.1	23.4	23.1	23.1	23.3	22.8	22.9
Brazil	18.8	19.3	19.8	19.1	18.5	18.9	19.0	18.9	18.8	19.7	19.0	18.7	18.5	18.9	19.2
Bulgaria	20.0	20.0	19.9	20.8	20.1	18.9	18.8	17.5	17.1	16.7	16.5	15.8	15.8	17.0	16.9
Burundi	14.9	15.5	14.7	17.5	19.2	19.0	19.8	28.0	30.2	28.8	31.6	28.0	24.2	22.1	21.0
Cambodia	5.2	5.3	5.4	5.3	4.5	4.1	3.5	5.7	5.6	6.2	6.3	6.0	5.8	5.6	5.5
Canada	19.2	19.6	19.8	20.0	19.5	19.1	19.3	19.3	19.8	22.0	21.5	21.2	21.1	20.8	20.3
Chad	7.7	7.5	7.7	7.6	4.9	4.2	4.6	6.0	6.3	7.6	6.7	6.5	6.9	7.9	6.2
Chile	12.1	12.1	12.2	11.7	11.0	10.6	9.9	10.3	11.1	12.4	12.1	11.9	11.9	12.3	12.7
China	16.6	16.1	15.6	14.7	13.9	14.0	13.9	13.5	13.2	13.2	12.8	13.2	13.4	13.5	13.3
Colombia	16.8	16.9	16.4	15.9	16.0	16.0	15.7	15.6	15.5	16.7	16.9	16.1	16.7	17.7	17.9
Congo	2.1	3.8	5.9	4.9	6.3	6.9	9.3	8.6	7.2	11.2	9.7	10.8	13.0	12.5	11.7
Costa Rica	13.8	14.4	14.8	14.6	14.1	13.6	13.2	12.8	13.6	15.8	16.8	17.2	17.1	17.6	17.5
Cyprus	15.1	15.9	16.6	17.9	16.6	16.5	16.9	16.4	17.1	18.8	18.4	19.1	18.8	17.7	16.1
Czech Republic	19.9	19.8	21.3	22.3	21.0	20.7	20.2	19.4	19.4	21.0	20.8	20.2	19.8	20.2	19.7
Denmark	23.9	24.3	24.9	25.0	24.9	24.5	24.2	24.3	25.1	27.9	27.4	26.6	26.5	26.0	25.8
Dominican Republic	8.7	9.5	10.0	8.6	7.6	8.1	8.8	9.2	10.1	10.7	9.9	9.3	9.9	10.4	11.2
Ecuador	9.4	9.4	9.8	10.7	10.9	10.7	10.6	10.9	11.8	13.7	13.2	12.7	13.3	14.0	14.3
Egypt	11.2	11.3	12.6	12.7	12.8	12.7	12.3	11.3	10.9	11.4	11.2	11.5	11.2	11.4	11.8
El Salvador	13.1	13.8	14.0	13.8	13.8	14.0	14.3	14.3	14.7	16.1	15.7	15.8	15.8	16.3	15.9
Eritrea	54.8	42.6	39.7	46.6	36.6	35.2	25.9	25.6	26.4	20.1	23.9	21.1			
Fiji	17.2	17.4	16.1	16.7	15.6	16.0	18.2	16.9	15.0			17.3	18.7	18.9	20.1
Finland	19.8	20.0	20.7	21.2	21.3	21.5	21.4	20.9	21.7	24.2	23.9	23.6	24.4	24.7	24.7
France	22.3	22.1	22.7	23.1	23.0	23.1	22.8	22.4	22.6	24.1	24.0	23.7	24.0	24.1	24.1
Gabon	9.6	16.0	16.5	16.2	15.0	12.5	13.3	13.7	12.4	16.1	13.5	12.8	14.0	14.5	14.8
Germany	18.7	18.6	18.8	19.0	18.5	18.4	18.0	17.5	17.9	19.6	19.1	18.7	18.8	19.2	19.2
Ghana	10.2	9.7	9.9	11.5	12.2	15.3	8.9	8.5	8.7	7.6	7.1	13.8	11.8	9.3	9.4
Greece	18.3	18.7	19.2	19.0	19.2	20.0	20.2	20.5	20.7	23.3	22.2	21.8	21.7	20.4	20.3
Guatemala	7.0	10.1	9.7	9.6	8.8	8.5	8.4	8.7	9.0	10.2	10.5	10.2	10.3	10.6	10.8
Haiti	6.1	6.9	7.9	5.8	6.8	5.4	5.6	6.5	7.6	7.1	7.6	7.3	3.5	3.1	3.4
Honduras	13.4	14.7	15.0	14.9	15.0	15.5	15.0	16.6	17.1	18.7	17.9	16.1	16.2	16.7	15.3
Hong Kong	9.4	10.2	10.6	11.0	10.4	9.2	8.8	8.4	8.7	9.2	8.9	8.7	9.1	9.3	9.5
Hungary	21.0	20.9	21.7	22.9	22.0	22.1	22.0	20.8	21.3	22.0	21.5	20.7	20.0	19.7	20.0
Iceland	22.4	22.4	24.0	24.8	23.8	23.6	23.5	22.9	23.4	24.7	24.5	24.6	24.4	24.2	24.0
India	12.2	12.0	11.6	11.1	10.6	10.6	10.1	10.0	10.6	11.6	11.1	11.1	10.7	10.3	10.4
Indonesia	6.5	6.9	7.3	8.1	8.3	8.1	8.6	8.3	8.4	9.6	9.0	9.1	9.2	9.5	9.4
Iraq	11.8	15.7	19.3	12.3	25.6	20.0	15.7	18.7	16.6	21.1	18.9	17.0	16.6	21.0	18.1
Ireland	14.7	15.4	15.8	16.0	16.1	16.0	16.2	16.9	18.8	20.1	18.8	18.2	17.6	16.9	16.1
Italy	17.9	18.4	18.6	19.0	19.2	19.6	19.4	18.9	19.4	20.6	20.4	19.6	19.6	19.7	19.3
Japan	16.9	17.5	18.1	18.2	18.1	18.1	18.0	17.9	18.4	19.6	19.5	20.2	20.3	20.2	20.2
Jordan	23.7	22.9	22.7	23.2	21.3	19.5	20.6	20.6	21.6	21.9	20.5	19.8	19.2	18.5	19.3
Kazakhstan	12.1	13.4	11.6	11.3	11.6	11.2	10.2	11.1	10.2	11.7	10.8	10.5	11.5	10.2	10.7
Kenya	15.1	16.0	17.1	18.1	17.9	17.4	14.3	14.6	15.7	15.2	14.2	14.0	13.9	14.3	14.2
Korea	11.3	12.2	12.1	12.5	12.8	13.3	13.8	13.9	14.6	15.2	14.5	14.6	14.8	15.0	15.1
Kuwait	21.5	23.6	25.3	23.0	19.9	15.7	13.9	14.0	13.4	18.5	17.1	14.9	15.1	16.4	17.8
Kyrgyz Republic	20.0	17.5	18.6	16.8	18.2	17.5	18.0	17.1	17.5	18.4	18.1	18.2	20.1	18.4	17.5
Laos	6.5	6.5	8.9	7.7	7.7	8.2	7.6	7.9	7.8	13.4	11.9	11.6	13.4	17.1	15.2
Latvia	20.7	20.5	20.5	21.0	19.8	17.8	17.2	17.6	19.8	19.0	18.4	18.2	17.4	17.6	17.5
Libya	18.4	19.0	15.7	12.5	13.2	11.3	10.7	11.9	9.9						
Lithuania	22.4	21.1	20.6	19.6	19.2	18.5	19.1	17.4	18.7	21.2	19.8	18.3	17.5	16.7	16.6
Luxembourg	14.8	15.8	16.2	16.8	17.0	17.1	15.9	15.2	15.7	17.5	17.0	16.7	17.4	17.3	16.7
Macedonia	16.9	23.8	20.8	18.1	17.4	16.2	16.5	16.8	18.6	19.1	18.3	18.1	18.6	17.5	17.1
Malawi															
Malaysia	10.2	12.0	13.0	13.0	12.6	11.5	11.2	11.6	11.5	13.0	12.6	13.3	13.8	13.7	13.3
Malta	17.7	19.0	18.8	18.8	19.1	18.1	18.6	17.9	19.7	19.8	19.5	19.7	20.2	19.4	18.9
Mauritania	20.2	20.0	25.9	28.7	26.6	25.2	21.6	25.2	22.1	21.6	19.9	18.1	19.8	19.3	21.4
Mauritius	14.1	13.8	13.9	14.2	14.3	14.8	14.1	12.4	12.5	13.9	13.8	13.5	13.4	14.6	14.8
Mexico	9.5	9.9	10.4	11.0	10.5	10.5	10.3	10.4	10.7	11.9	11.8	11.8	11.9	12.2	12.2
Mongolia	15.3	16.8	16.1	14.2	14.5	12.1	11.7	13.1	14.6	14.1	12.7	12.3	13.5	13.5	13.0
Morocco	17.6	17.9	17.6	17.4	17.9	18.5	17.8	17.5	16.8	18.2	17.9	18.7	19.8	19.9	19.9
Mozambique	16.2	18.9	16.9	17.5	18.9	18.1	17.3	16.8	16.9	18.1	18.6	19.9	20.8	23.9	26.1
Myanmar											10.8	12.0	15.2	18.4	21.4
Nepal	8.9	8.1	8.4	8.7	8.6	8.9	8.7	9.2	9.9	10.8	10.0	9.6	10.8	9.9	10.3
Netherlands	20.4	20.9	22.1	22.9	22.5	22.3	23.4	23.3	23.9	26.5	26.5	26.0	26.3	26.1	25.9
Netherlands Antilles															
Nicaragua	8.7	9.0	8.7	9.2	9.1	9.4	15.2	14.0	13.8	14.5	14.1	13.6	13.6	13.8	14.3
Norway	19.0	20.2	21.6	22.0	20.8	19.4	18.6	18.8	18.6	21.7	21.4	21.0	20.9	21.2	22.0
Oman	21.5	23.2	23.7	22.2	22.4	20.8	18.6	18.8	14.2	19.4	18.1	18.0	19.5	21.5	24.7
Pakistan	8.6	7.8	8.7	8.8	8.2	7.8	10.4	9.9	9.7	10.5	10.3	9.7	10.5	11.0	10.8
Paraguay	11.0	10.2	9.1	8.8	8.5	9.3	9.8	9.2	8.9	10.9	10.4	10.6	12.7	12.3	12.3
Peru	11.5	11.7	11.2	11.5	11.3	11.4	10.9	10.5	10.4	11.5	10.5	10.4	10.9	11.5	12.7
Philippines	11.4	11.1	10.6	10.2	9.4	9.0	9.2	9.3	8.8	9.9	9.7	9.7	10.8	10.8	10.6
Poland	18.1	18.7	18.6	18.9	18.3	18.3	18.5	18.1	18.6	18.7	19.1	18.1	17.9	18.1	18.1
Portugal	19.0	19.4	19.7	20.2	20.5	21.1	20.5	19.8	19.9	21.4	20.7	19.9	18.5	19.1	18.6
Qatar	19.7	18.6	16.7	15.4	13.1	14.3	14.7	12.4	10.2	15.6	14.0	11.0	12.2	14.6	15.5
Romania	17.2	15.9	14.8	18.9	16.0	17.1	16.2	15.4	16.1	17.5	16.1	15.0	15.0	14.2	14.1
Russian Federation	15.1	16.4	18.0	17.9	17.0	16.9	17.4	17.3	17.8	20.8	18.7	17.5	17.8	18.5	17.9
Saudi Arabia	25.9	27.3	26.0	24.5	22.9	21.3	22.0	20.7	17.7	22.2	20.2	19.4	20.0	22.4	26.1
Serbia	18.2	19.5	21.5	22.0	20.8	19.5	19.3	20.2	19.5	18.8	18.5	18.2	18.6	17.8	17.7
Singapore	10.7	11.8	12.0	11.6	10.5	10.2	10.3	9.5	10.5	10.3	10.2	9.7	9.2	10.0	9.9
Slovak Republic	19.4	19.9	19.6	19.9	18.5	18.3	18.8	17.2	17.6	20.2	19.6	18.8	18.2	18.4	18.9
Slovenia	18.5	18.9	18.7	18.8	18.7	18.7	18.4	17.3	18.0	20.1	20.3	20.4	20.2	19.5	18.6
South Africa	18.4	18.5	18.8	19.1	19.2	19.5	18.2	17.8	18.7	19.9	20.2	19.9	20.3	20.6	20.8
Spain	16.7	16.6	16.6	16.8	17.2	17.3	17.4	17.7	18.8	20.5	20.5	20.5	19.7	19.7	19.5
Sri Lanka	10.5	10.3	12.7	12.2	12.6	13.1	15.4	15.3	16.2	17.6	8.5	8.6	7.6	7.8	8.4
Suriname	37.5	31.9	28.8	24.6	25.0	23.3	19.1	10.1	10.9	13.2	13.3	12.5	14.8	16.6	16.0
Sweden	24.5	24.7	25.5	25.7	25.0	24.9	24.6	24.1	24.6	26.2	25.2	25.2	25.9	26.3	26.2
Switzerland	11.6	11.7	12.1	12.2	12.0	11.8	11.3	10.9	11.0	11.8	11.6	11.7	11.9	11.9	12.0
Syrian Arab Republic	12.4	12.5	12.3	13.4	15.6	13.7	11.4	12.3							
Taiwan															
Tajikistan	8.3	8.7	8.6	8.3	11.8	14.6	11.1	8.9	9.3	12.5	11.3	13.7	12.8	13.2	13.9
Thailand	13.6	13.5	13.2	12.9	13.1	13.7	13.5	13.9	14.3	16.0	15.8	16.1	16.4	16.4	17.0
Trinidad and Tobago															
Tunisia	16.7	16.6	17.2	17.2	16.9	16.9	16.7	16.5	16.1	16.6	16.6	18.0	18.2	18.6	18.7
Turkey	12.0	12.7	12.9	12.7	12.4	12.3	13.0	13.5	13.7	15.8	15.0	13.7	14.2	14.1	14.1
Ukraine	20.9	19.6	18.4	19.0	18.1	18.6	18.4	18.3	17.0	20.1	20.1	18.1	19.3	19.3	19.5
United Arab Emirates		9.9	10.1	9.8	8.7	7.9	6.9	6.7	7.3	10.2	10.0	10.0	9.7	11.0	10.9
United Kingdom	16.5	17.2	17.9	18.6	19.3	19.4	19.5	19.3	20.1	21.6	21.4	20.7	20.5	19.9	19.5
United States	14.0	14.5	15.0	15.3	15.2	15.1	15.1	15.3	16.1	16.9	16.9	16.3	15.7	15.1	14.7
Uruguay	12.4	12.5	12.3	12.0	11.0	10.9	11.3	11.5	12.2	12.9	12.6	12.8	13.3	13.5	13.7
Venezuela	12.4	14.2	13.0	12.9	12.0	11.1	11.7	12.5	11.9	13.7	11.2	11.5	12.2	12.4	14.6

Tax revenue (% GDP)

Tax revenue (% GDP)	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014
Afghanistan							6.88336434	5.22975577	6.03942831	8.43499771	9.12365112	8.8545681	7.47163885	7.08135003	6.84238566
Albania			16.1608431	16.7908423	17.6453594							18.0220122	17.4832337	16.5032751	18.301941
Argentina	9.622603502	9.32489879	9.81895835	12.5187797	13.1007799	13.1031756		12.4482684	13.3178464	12.3830416	12.8530427	12.6636277	12.9528415	12.4529028	12.6109666
Australia	23.08737567	24.8324976	23.5379863	24.3341477	24.3613515	24.8686713		24.1423036	24.2961649	22.0932654	20.565416	20.3692639	21.2362373	22.05965	22.027653
Austria	26.22507988	27.965572	26.9755003	26.6469699	26.3086725	25.5139555		25.3919943	26.0775197	25.2251652	25.2816355	25.4279853	25.9281976	26.4151731	26.4245174
Bangladesh		6.61116027	6.69138419	6.9652139	7.04644842	7.13567004	7.04330406	6.91726267	7.65602988	7.49811626	7.83468475	8.68592471	9.02456269	8.96241332	8.63537774
Belarus	16.6247345	15.7546642	14.2010383	17.6881219	18.3713469	20.1496563	22.2230966	23.7266987	25.3533892	19.2596284	16.3214384	14.5090726	14.662975	13.3549628	12.6977245
Belgium	27.07979955	26.6400264	25.5432259	24.9491838	25.3762502	25.3533123	25.1696478	24.7109693	25.0875049	23.6206033	24.33393	24.7113013	25.7100063	26.1878351	26.2629906
Bolivia	12.3308029	11.782546	13.1841051	12.9730002	15.0163488	16.2151642	16.8161682	16.9648658							
Brazil	13.77485584	14.5597635	15.7200793	15.2443836	15.7527707	16.5289705	15.3813115	15.7755339	15.4928137	14.4175316	13.6234474	14.2201231	13.6514575	13.4416903	12.7616869
Bulgaria	17.15913176	17.2719034	15.4140808	19.9246411	21.2166564	20.4671904	21.1119297	22.8822687	22.178901	19.0334708	18.4509043	17.7392303	18.9768248	19.8204113	19.5537274
Burundi											13.891989	14.7416559	13.6809114	12.1815712	
Cambodia			8.17291127	7.53784442	8.11726504	7.89324277	8.17882207	9.69697926	10.5551964	9.64778105	10.0030401	10.1546929	11.0824863	12.078853	14.6266309
Canada	14.90738221	14.2315904	13.425258	13.2757745	13.3903205	13.3421499	13.3872847	13.3694135	12.4210263	12.3355441	11.7604449	11.8315383	11.6925644	11.652399	11.8363666
Chad															
Chile	16.15269282	16.0335518	16.2016951	15.9489634	16.4022315	18.0251236	19.4919069	20.2569326	18.7118596	14.5230955	17.3565144	18.8589908	18.9948669	17.3869727	16.9673915
China						8.56924386	9.05725398	9.76634573	10.092861	10.2927961	10.1895231	10.2841226	10.2228404	9.86976269	9.67244254
Colombia	11.21975419			11.2588269					12.935611	12.5980428	12.1229133	14.5554009	13.2721334	14.0930837	14.9814436
Costa Rica	12.89477945	13.4137706	13.4280659	13.6447951	13.4177875	13.6985432	13.9107526	14.9346455	15.3264627	13.2621604	13.0880851	13.365234	13.3191977	13.741715	13.416659
Cyprus	34.8441151	35.8024518	35.9933304	37.5386828	37.0788051	39.0147628	40.8655342	48.3441644	46.0547468	23.2516668	23.2472344	23.2987517	23.3415599	23.4133569	24.5309811
Czech Republic	14.51693772	14.8035536	14.6155493	15.0554978	15.4907975	14.3654184	14.0829333	14.5023446	13.4418557	13.3608233	13.4495607	14.3139581	14.6878307	14.9464341	14.1715554
Denmark	31.59410722	30.1672006	30.1171902	30.1407829	31.2922103	33.0717712	31.8602951	35.0930071	33.4215391	33.1838297	32.7372295	32.7534824	33.4464027	33.8197533	36.5002915
Dominican Republic	12.16441366	13.380507	13.2167276	11.745143	12.5218843	13.6981611	13.9947599	14.8862684	14.1610535	12.6359094	12.2074011	12.2976255	13.026483	13.5035356	13.6103849
Ecuador															
Egypt			13.4077593	13.3499401	13.8359777	14.0686351	15.8295127	15.3498523	15.3205248	15.6613606	14.1300762	14.0086354	12.3849048	13.4980649	12.2201408
El Salvador	10.6054957	13.3067008	12.0994707	12.6782971	12.6544549	14.5108164	15.6701113	16.744896	17.0602069	14.9770339	15.8120787	15.3440307	16.1824336	17.0652565	16.7144389
Fiji					22.1900156	21.3480642	23.1870233				21.7790469	23.0228529	23.2333297	23.6455449	24.6178108
Finland	24.27304952	21.9187099	22.4967462	22.0843312	21.8511204	21.8326267	21.455386	21.1202461	20.5496848	18.9577361	18.7049706	20.1326771	20.2609701	20.7432944	20.7744045
France	23.3531383	23.347289	22.5424148	22.090238	22.1457625	22.2932151	22.5696385	22.1465364	22.0342505	20.7083993	21.9519578	21.8327229	22.5534804	23.233306	23.1796034
Gabon															
Germany	11.66384752	10.9251095	10.7819707	10.956407	10.3891008	10.5988196	10.8146245	11.2723467	11.3908906	11.558034	11.115788	11.4417784	11.5712079	11.5500099	11.480629
Ghana											13.6776878				
Greece	22.47052181	20.9377729	21.2668772	19.7076767	19.1347301	20.3265058	19.9792007	20.2428425	20.2136126	19.7756802	20.2140014	22.0737324	23.6035971	23.73982	24.3814275
Guatemala	10.06497645	10.8630251	11.8805492	11.6738558	11.552737	11.2053914	11.8569713	12.0593625	11.2738322	10.3355381	10.4352797	10.8378013	10.8359605	10.9261207	10.8180702
Haiti															
Honduras				13.7464658	14.4958593	14.534954	15.2383561	16.3850005	16.130516	14.1619702	14.4250984	14.7879788	14.7474723	15.0632419	16.5426382
Hungary	22.19916534	21.2623809	20.7452253	20.610465	20.3621553	19.9109614	19.7817063	21.389557	23.2500663	23.32357	22.84823	21.1349907	22.8920342	22.7448821	22.9745764
Iceland	25.38263769	23.0396578	22.8643467	23.9132819	24.9512691	27.4243674	27.4123372	26.1677848	23.1901785	20.0802167	20.6552182	21.1895938	22.0874832	22.6569707	25.2897152
India	8.929254982	8.18868715	8.79357552	9.23122391	9.70021273	10.2240075	11.370511	12.2658484	11.0876217	9.94269843	10.5071709	10.1773872	10.8367717	11.0016257	
Indonesia		11.5781846	11.8269596	12.3855321	12.3307679				13.3106178	11.0577865	10.5374851	11.1581279	11.3805899	11.2853015	10.8355238
Iraq															0.89047515
Ireland	26.37731219	24.2348309	23.5181174	24.1637944	25.0865904	25.4752998	26.8076965	25.9196496	23.7392998	21.9862913	21.8154261	21.8222437	22.4776407	22.8005503	23.164726
Italy	22.51138436	22.2811751	21.6799864	21.4739296	20.967538	20.7526152	22.1240481	22.3767401	21.8923398	22.4353022	22.2632454	22.3005969	23.6317654	23.7280452	23.521988
Japan	10.37225701	9.89592834	9.06159893	8.91896344	9.35269406	10.1370111	10.5127413	10.1061863	8.93159165	8.36891038	8.80978443	9.35681821	9.68241294	10.3606176	11.4692066
Jordan									17.7695478	17.0443358	15.9785572	15.0230114	15.2940067	15.328932	
Kazakhstan	10.22139507	9.64230065	12.1343598	13.0832377	13.908678						15.7123805	18.2578342	13.3120982	16.0301778	14.1934327
Kenya															16.8769794
Korea, Rep.	14.63112487	13.9200386	13.6451571	14.1400984	13.446495	13.8580207	14.2894925	15.4764356	15.1477747	14.2867476	14.0454613	14.4356558	14.7179218	14.3112147	13.9259017
Kuwait		1.03728623	1.18205349	1.3247354	1.3244277	1.02996652	0.97047845	1.08652282	0.87582029	0.97119234	0.97947042	0.79978171	0.71630591	0.77745226	0.89013912
Kyrgyz Republic														17.5669227	17.5486531
Laos									12.10294	12.7571662	13.0271391	13.1464122	13.6053413	13.7388338	13.8301819
Latvia	20.77011164	20.6907139	19.9848332	20.244528	20.4181842	21.5409406	22.2485724	21.7142067	20.8291499	18.8351503	19.8114599	20.0415918	21.1007767	21.9772822	22.4108174
Libya															
Lithuania	5.872039841	5.613038	5.55400201	5.51514974	5.60207401	5.71522651	5.92625716	5.89339168	5.92543672	4.92823546	4.62479437	4.49000652	4.50610719	4.52875024	4.58815478
Luxembourg	25.42283235	25.1527264	24.7622577	24.7117034	24.2360856	25.5957603	24.238725	24.6564857	24.6883617	25.138928	25.0176242	24.5923458	25.7106537	25.8944321	25.5732477
Macedonia						18.4250987	18.0826617	19.0748302	18.5239461	17.1295783	16.8656928	16.999651	16.4166504	15.668958	16.2352837
Malawi										14.4658536	15.3729139	15.4518438	13.5570748	14.1290373	15.934136
Malaysia	13.6669089	17.7948888	17.4470006	15.4956551	15.1990617	14.8263911	14.5162213	14.3037228	14.6629773	14.9405044	13.3321953	14.7943532	15.6131467	15.3102353	14.8407907
Malta	45.91492891	48.5334599	51.2140071	53.9887317	55.3444896	59.0156701	60.2160388	62.8586115	26.1314471	26.5274818	26.1396772	26.1280885	26.3967047	26.7606952	26.8587356
Mauritania															
Mauritius	17.25243891	15.398099	15.2395088	16.6884411	16.7314894	17.8192068	16.0286714	15.1054618	16.9672195	18.0730131	18.0167134	18.0045184	18.6217075	18.3666088	18.4661865
Mexico	9.572861438								10.0237676	9.67979614	10.1109134	10.012403	9.77301535	10.2945787	10.6334131
Mongolia	13.9101607	14.6620592	13.3692402	18.0387456			28.7099747	23.4791765	21.6518154	16.5402944	19.5931193	18.4669911	15.3121422	15.731208	12.9016342
Morocco			19.072566	18.7897725	18.9788517	20.9729413	21.4510214	23.9054028	26.4926256	23.456304	22.8192334	23.2967561			
Mozambique											16.1235136	18.7033648	20.3651165	23.126371	25.4025374
Myanmar	2.966507458	2.25714041	2.00104717	2.21041186	3.27245666	3.88177836							4.5240937	5.52956759	5.83580417
Nepal	8.735981111	8.80256569	8.56058314	8.65181185	8.9749585	9.17945342	8.77975841	9.7724734	10.4400864	11.8440369	13.3961154	13.2597439	13.8621686	15.2928211	15.9039766
Netherlands	21.19867607	21.5361572	21.3997545	20.567982	20.3920685	21.4153359	21.7754466	21.9306027	21.3749857	20.9771027	21.3452793	20.3986754	19.6081926	19.9263728	20.8719955
Oman	1.662533664	1.80899282	1.99744348	2.03890265	1.94715174	1.9973224	1.94416297	2.7042727	2.41565285	3.38774435	2.54213234	2.27241406	2.60114627	2.52372167	
Pakistan	10.08899115	10.042607	10.311311	10.7838384	10.2845452	9.60441442	10.3852651	9.23473769	9.49355749	8.94309245	9.97542476	9.18867679			
Paraguay						10.1598658	10.5336134	10.1454276	10.7677598	11.6867084	12.063196	12.5973361	12.7942414	11.9522427	12.7420717
Peru	12.6086475	12.8971056	12.4871426	13.4115212	13.6633689	14.1047422	15.6699876	16.4074684	16.5121709	14.4565268	15.4665718	15.9688951	16.5466871	16.4295609	16.6957116
Philippines	12.84626379	12.6931914	12.0911683	12.1017523	11.8159876	12.4272827	13.7118709	13.5348865	13.5893944	12.2299087	12.1469921	12.3815402	12.8879513	13.3095109	13.6054423
Poland	16.9937834	16.0883362	16.8739368	16.7454754	15.7017433	16.5170404	17.185911	18.1252184	18.1635667	15.9304566	16.5499433	16.6912812	15.9645274	15.5623621	15.5028379
Portugal	21.01215412	20.6318194	20.9415697	20.9084697	19.9329892	20.4741727	21.0659096	21.3312418	21.0319634	19.1795606	19.6983216	21.234634	20.8825791	22.7506508	22.7234306
Qatar					25.5079992	20.34401	20.051401	20.6052699	15.9231923	19.9244507	14.654951				
Romania	17.87381898	16.5018694	16.4503702	17.1627647	17.1369694	17.2499594	17.7276766	17.4050944	16.8410248	15.4049632	16.5718477	17.9868285	17.8815498	17.5531331	17.8966318
Russian Federation	13.72562144	15.7786685	13.6491915	13.3140302	13.2340254	16.6229097	16.5682158	16.5513196	15.8180867	12.9563586	13.0483605	13.9151899	13.7424683	12.9072846	13.2269662
Saudi Arabia															
Serbia								22.825602	22.407752	21.2000449	21.4386602	20.1994212	19.7213866		
Singapore	14.89307744	14.6686245	12.7710701	12.5287137	11.6905827	11.612456	11.8977154	12.8888574	13.8535718	13.0723438	12.9690276	13.2664403	13.7868753	13.4073404	13.700663
Slovak Republic	18.46661873	17.2345433	17.0747263	17.6392715	17.2455719	17.9607249	16.7546108	16.7157987	16.4063786	15.4844393	14.9904728	15.5015507	14.9713508	15.9224137	16.69956
Slovenia	20.04390177	19.9502788	20.439153	20.6219152	20.6010664	21.0672012	20.8375521	20.029559	19.3949228	18.0413025	18.1128293	17.9176201	17.9550695	18.0061311	18.1781951
South Africa	23.34368567	24.1855806	23.2784151	23.0375496	24.282095	25.7432954	27.2698706	27.5960393	26.8132169	24.3968023	25.0415044	25.1798235	25.5881319	26.0439096	26.541192
Spain	16.23226306	15.8578356	15.0037102	14.6273921	14.9626199	15.6586422	16.1214476	16.7249102	13.257363	11.0074399	12.9664596	12.4477672	12.2383309	13.9944408	14.2524715
Sri Lanka	14.50276551	14.6255004	14.0203618	12.7106759	13.465969	13.732529	14.5772592	14.2216086	13.2773344	12.8003205	11.3000314	11.2563938	10.4084151	10.4866231	10.1375062
Suriname		28.711002	20.6767387	21.5357372	21.0253776	20.5458508	16.7493329	18.8655099	17.3487422	17.2185374	15.6567072	18.4520472	19.5474506		
Sweden	30.02170262	27.9781932	26.8526964	26.9013082	27.2173868	28.4994731	28.4923498	28.4488602	27.0263688	26.9382872	27.1106996	26.4874499	26.0686333	26.2481933	26.3009673
Switzerland	10.20461941	9.2108308	9.19319936	9.19074312	9.22392406	9.429327	9.52176174	9.35967391	9.91292245	9.68153737	9.71922546	9.65173891	9.52037153	9.60281589	9.40176821
Syrian Arab Republic	15.42475179	19.0054503	18.0581582	18.8229347	16.4024501	13.824399	14.5807417	14.1946828							
Tajikistan															
Thailand	12.97672522	13.070189	13.4703128	14.4815711	14.8533544	16.0618645	15.6369722	15.1431465	15.3848816	14.194247	14.9326393	16.3618522	15.4409407	16.9091105	15.622271
Trinidad and Tobago	19.47238406	22.1212859	20.4554983	21.3015498	22.0250565	26.3787008	30.2575877	25.9952903	29.4884053	26.8274061	26.2440185	25.6437422	26.4462494		27.1252924
Tunisia	19.29243408	19.5974359	19.5405059	18.7452118	18.6721458	18.8775047	18.5101087	19.0708188	20.5018112	20.0481618	20.139086	21.1931055	21.1278897		
Turkey									17.6963242	18.2613579	19.4053696	18.7440861	18.3927584	18.5318879	18.0698217
Ukraine	14.10037044	12.0613644	13.0987018	13.654478	13.2756561	17.1230847	17.7475453	16.4845969	17.8626566	16.3717653	15.5705214	18.5150528	18.3165571	17.5613808	17.2943478
United Kingdom	26.22898439	25.8491402	25.0083483	24.5934176	25.2220647	25.5473584	25.7385535	25.9096752	26.5462487	24.2274128	25.3876093	26.0618252	25.2379356	25.2251856	24.9209335
United States	12.9281339	11.8131688	9.82431906	9.34275763	9.49262594	10.6371021	11.2745571	11.2885012	10.3084523	7.93590896	8.61080572	9.58908426	9.82110155	10.5772052	11.0016239
Uruguay	14.69913704	15.3059816	15.7776762	17.2060059	17.8462046	17.896922	18.9880556	18.4105091	18.2418413	18.722221	18.8863887	19.1018313	18.8218856	19.0414124	18.5667229
Venezuela															

Total expense in education (% of GDP)

EDUC % GDP	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014
Afghanistan											3.5	3.4	2.5	3.5	3.8
Albania	3.3	3.3	3.1	3.1	3.2	3.2	3.2	3.3						3.5	
Argentina	4.6	4.8	4.0	3.5	3.5	3.9	4.1	4.5	4.8	5.5	5.0	5.3	5.3	5.4	5.4
Armenia	2.8	2.5	2.1	2.1	2.5	2.7	2.7	3.0	3.2	3.8	3.2	3.1	2.8	2.7	2.2
Australia	4.9					4.9	4.7	4.7	4.6	5.1	5.6	5.1	4.9	5.3	5.2
Austria	5.6	5.6	5.5	5.4	5.3	5.2	5.2	5.1	5.3	5.7	5.7	5.6	5.5	5.5	5.4
Bangladesh	2.1	2.2	2.0	2.1	1.9		2.1	2.2	2.1	1.9		2.1	2.2	2.0	
Belarus	6.2				5.7	5.9	6.1	5.2		4.5	5.2	4.7	5.0	5.0	4.8
Belgium		5.8	5.9	5.9	5.8	5.8	5.8	5.8	6.3	6.4	6.4	6.4		6.6	6.6
Bolivia	5.5	5.9	6.2	6.4			6.3		7.0	8.1	7.6	6.9	6.4	6.3	7.3
Bosnia and Herzegovina															
Brazil	3.9	3.8	3.8		4.0	4.5	4.9	5.0	5.3	5.5	5.6	5.7	5.9	5.8	5.9
Bulgaria		3.4	3.4	4.0	2.3	4.1	3.9	3.7	4.2	4.3	3.9	3.6	3.5	4.1	
Burundi	2.6	2.9	3.0		3.7	3.6			5.2	6.3	6.8	6.0	5.8	5.4	
Cambodia	1.7	1.7	1.7		1.7			1.6		1.7	1.5	1.5	1.6	2.0	1.9
Canada	5.4	5.0	5.0			4.8		4.8	4.6	4.9	5.4	5.3			
Chad	2.6	2.4			1.6	1.7				2.3	2.0	2.3	2.2	2.9	
Chile	3.8		4.1	4.0	3.5	3.3	3.0	3.2	3.8	4.2	4.2	4.0		4.5	4.7
China															
Colombia	3.5	3.7	4.3	4.3	4.1	4.0	3.9	4.1	3.9	4.7	4.8	4.5	4.4	4.9	4.7
Congo											1.6			2.2	
Costa Rica	4.7	4.9	5.2	5.2	4.9		4.6	4.7	4.9	6.0	6.6	6.5	6.7	6.8	6.9
Cyprus	4.9	5.0	5.5	6.7	6.1	6.2	6.2	6.3	6.7	7.2	6.6	6.6		6.4	6.1
Czech Republic	3.7	3.7	4.0	4.1	4.0	3.9	4.2	3.9	3.7	4.2	4.1	4.3	4.3	4.1	4.0
Denmark	8.1	8.2	8.2	8.1	8.2	8.1	7.7	7.6	7.5	8.4	8.6	8.5	7.2	8.5	7.6
Dominican Republic	1.9	2.0	2.0	1.9				2.0							
Ecuador	1.2									4.3	4.5	4.7	4.6	5.0	5.3
Egypt				4.9	4.7	4.8	4.0	3.7	3.8						
El Salvador	2.5		2.9	2.8		2.7	3.0	3.1	3.7	4.0	3.5	3.4	3.3	3.4	3.4
Eritrea		4.0	3.5		3.1		2.1								
Fiji	5.9	5.6	6.2		6.2	5.1	5.6	5.8	4.3	4.5		4.2		3.9	
Finland	5.7	5.8	6.0	6.2	6.2	6.0	5.9	5.7	5.8	6.5	6.5	6.5	7.2	7.2	7.2
France	5.5	5.4	5.4	5.7	5.6	5.5	5.4	5.4	5.4	5.7	5.7	5.5	5.5	5.5	5.5
Gabon	3.8										3.1	3.0	3.0	3.0	2.7
Germany							4.3	4.3	4.4	4.9	4.9	4.8	4.9	4.9	4.9
Ghana		5.4			7.5	7.4	5.3	5.5	5.8	5.3	5.5	8.1	7.9	6.1	6.2
Greece	3.2	3.4	3.4	3.4	3.7	4.0									
Guatemala							3.0	3.0	3.2		2.8	2.9	3.0	2.8	2.9
Haiti															
Honduras														5.9	
Hong Kong		3.9	4.0	4.3	4.6	4.1	3.8	3.5	3.3	4.4	3.5	3.4	3.5	3.8	3.6
Hungary	4.9	4.9	5.2	5.8	5.3	5.3	5.3	5.1	5.0	5.0	4.8	4.6		4.2	4.6
Iceland	6.5	6.8	7.4	7.3	7.2	7.4	7.4	7.1	7.2	7.3	7.2	7.0	7.9	7.8	
India	4.4			3.7	3.4	3.2	3.2			3.3	3.4	3.8	3.9	3.8	
Indonesia		2.3	2.5	3.0	2.6	2.7		2.9	2.7	3.3	2.8	3.2	3.4	3.4	3.3
Iraq															
Ireland	4.1	4.1	4.1	4.2	4.5	4.5	4.5	4.7	5.4	6.1	6.0	5.8	5.8	5.3	4.9
Italy	4.3	4.7	4.4	4.6	4.4	4.2	4.5	4.1	4.4	4.5	4.4	4.1		4.2	4.1
Japan	3.5	3.5	3.5	3.5	3.5	3.4	3.3	3.3	3.3		3.6	3.6	3.7	3.7	3.6
Jordan															
Kazakhstan	3.3		3.0		2.3	2.3	2.6	2.8	2.6	3.1					
Kenya	5.2	5.2	6.2	6.5	6.8	7.3	7.0				5.5	5.3	5.5	5.4	5.3
Korea		3.9	3.8	4.1	4.1	3.9	4.0	4.0	4.5	4.7			4.6	4.9	5.1
Kuwait		6.6	6.6		5.5	4.7	3.8								
Kyrgyz Republic	3.5	3.9	4.4	4.5	4.6	4.9	5.5	6.5	5.9	6.2	5.8	6.8	7.4	6.8	5.5
Laos	1.5	2.0	2.8		2.4	2.4	3.0	3.1	2.3	1.7	1.7	1.8	1.8	3.2	2.9
Latvia	5.3	5.5	5.6	5.1	4.9		4.7	4.7	5.4	5.6	5.1	4.9	6.6	7.0	5.3
Libya															
Lithuania		5.8	5.8	5.1	5.2	4.9	4.8	4.6	4.8	5.6	5.3	5.1	4.8	4.6	4.5
Luxembourg		3.6											4.1		4.0
Macedonia			3.3												
Malawi	5.2	4.5		3.2							3.5	4.2		5.4	4.8
Malaysia	6.0	7.5	7.7	7.5	5.9		4.5	4.4	4.0	6.0	5.0	5.8	5.7	5.5	5.2
Malta			3.9		4.5			6.0	5.6	5.2	6.5	7.8	6.5	7.9	7.2
Mauritania		2.8	3.1	3.1	2.5		2.5		3.6		3.6	3.1	2.8	2.9	
Mauritius	3.8	3.2	3.1	4.5	4.5	4.2	3.8	3.2	3.1	3.0	3.6	3.3	3.4	3.6	4.9
Mexico	4.1	4.4	4.6	5.2	4.8	4.9	4.7	4.7	4.9	5.2	5.2	5.1	5.2	4.7	5.3
Mongolia	5.6		7.2		4.3			4.7		5.1	4.6	4.6	5.2	4.9	4.7
Morocco									5.3	5.3					
Mozambique					3.7	4.4	4.3						6.1	6.5	
Myanmar												0.8			
Nepal	3.0	3.7	3.2	3.1	3.2	3.4	3.6	3.5	3.8	4.7	3.6	3.8	3.8	3.5	4.0
Netherlands	4.6	4.8	4.9	5.1	5.1	5.2	5.1	4.9	5.1	5.5	5.6	5.5	5.5	5.6	5.5
Netherlands Antilles															
Nicaragua	3.0		2.4	2.4							4.5				
Norway	6.5	6.8	7.4	7.4	7.3	6.9	6.4	6.5	6.3	7.1	6.7	6.4	7.4	7.5	7.7
Oman	3.2	4.0	4.3	3.9	4.0	3.5	3.9			4.2				5.0	
Pakistan	1.8				1.9	2.3	2.6	2.6	2.7	2.6	2.3	2.2	2.1	2.5	2.5
Paraguay	4.6	4.3	3.9	3.9	3.4			3.5			3.8	5.0	5.0		
Peru	3.2	3.0	2.8	2.9	3.0	2.8	2.7	2.6	2.9	3.1	2.9	2.7	2.9	3.3	3.7
Philippines	3.3	3.0	3.0	3.0	2.6	2.4	2.5	2.6	2.7	2.7					
Poland	5.0	5.3	5.4	5.3	5.4	5.4	5.2	4.9	5.0	5.0	5.1	4.8	4.8	4.9	4.9
Portugal	5.2	5.3	5.3	5.3	5.0	5.1	4.9	4.9	4.7	5.6	5.4	5.1	4.9	5.3	5.1
Qatar	3.7	3.2	3.8	3.4	3.5	4.0			4.2	3.4	4.5	4.0	3.5	4.1	3.6
Romania	2.9	3.2	3.5	3.4	3.3	3.5		4.2		4.2	3.5	3.0	2.9		3.1
Russian Federation	2.9	3.1	3.8	3.7	3.5	3.8	3.9		4.1				3.8		
Saudi Arabia	5.9	7.7	7.6	7.1	6.3	5.4	5.9		5.1						
Serbia								4.5	4.7	4.8	4.6	4.5	4.4		4.2
Singapore	3.3	3.6	3.9	4.0	3.7	3.2	2.9	3.0	2.8	3.0	3.1	3.1	3.1	2.9	
Slovak Republic	3.9	3.9	4.3	4.2	4.1	3.8	3.7	3.5	3.5	4.0	4.1	4.0	3.9	4.1	4.2
Slovenia		5.8	5.7	5.7	5.6	5.6	5.6	5.1	5.1	5.6	5.6	5.6	5.6	5.4	5.3
South Africa	5.4	5.2	5.1	4.9	5.1	5.1	5.1	5.0	4.9	5.2	5.7	6.0	6.4	6.0	6.0
Spain	4.2	4.1	4.1	4.2	4.1	4.1	4.2	4.2	4.5	4.9	4.8	4.9	4.4	4.3	4.3
Sri Lanka										2.1	1.7	1.8	1.5	1.6	1.9
Suriname															
Sweden	6.8	6.7	7.0	6.9	6.7	6.6	6.4	6.2	6.4	6.9	6.6	6.5	7.7	7.7	7.7
Switzerland	4.8	5.0	5.3	5.5	5.4	5.2	5.0	4.7	4.9	5.0	4.9	5.0	5.0	5.0	5.1
Syrian Arab Republic		4.4	5.0	6.5	5.4		5.3	4.9	4.6	5.1					
Taiwan															
Tajikistan	2.3	2.4	2.8	2.4	2.8	3.5	3.4	3.4	3.5	4.1	4.0	3.9	4.0		
Thailand	5.3	4.8	3.9	3.7	4.0	3.9	4.1	3.6	3.5	3.9	3.5	4.8	4.5	4.1	
Trinidad and Tobago	2.8	3.1	3.5	3.1											
Tunisia	6.2	6.2	5.8	6.8	6.7	6.5	6.4	6.5	6.3	6.5	6.3		6.3		
Turkey	2.5	2.7	2.7	2.9	3.0		2.8						4.4	4.4	4.4
Ukraine	4.2	4.7	5.4	5.6	5.3	6.1	6.2	6.2	6.4	7.3		6.2	6.7	6.7	5.9
United Arab Emirates															
United Kingdom	4.1	4.1	4.7	4.8	4.8	5.0	5.0	5.0	4.9	5.1	5.8	5.7		5.6	5.7
United States											5.4	5.2	5.2	4.9	5.0
Uruguay	2.4	2.8	2.3	2.1	2.5	2.7	2.9					4.4			
Venezuela							3.7	3.6		6.9					

Income

GDP growth

GDP growth (%)	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014
Afghanistan				8.44416323	1.05555579	11.1752702	5.55413762	13.740205	3.61136839	21.0206487	8.43329048	6.11368517	14.4347413	3.90057488	2.69052195
Albania	6.6666205	7.94033142	4.23137102	5.77349056	5.7095566	5.72081995	5.43101274	5.9	3.76085368	3.35261024	3.71005779	2.55016086	1.41996754	1.0007546	1.77436874
Argentina	-0.78899894	-4.40883968	-10.8944848	8.8370408	9.0295733	8.85165992	5.43101274	9.00765088	4.0572331	-5.91852508	10.1253982	6.00395169	-1.02642045	2.40532378	-2.51261532
Australia	3.94318908	1.93310573	4.00302228	2.9857449	4.00110552	3.19031634	5.43101274	3.77732903	3.65776676	1.92272729	2.052942	2.45110508	3.89194003	2.63948236	2.55833752
Austria	3.37572197	1.26717047	1.65154941	0.94147331	2.73511852	2.24406681	5.43101274	3.72741518	1.46042519	-3.76458048	1.83709459	2.92279764	0.68044437	0.0255041	0.82873388
Bangladesh	5.29329472	5.07728778	3.83312394	4.7395674	5.23953291	6.53594494	6.67186827	7.05863621	6.01378976	5.04512479	5.57180227	6.46438388	6.52143508	6.01359607	6.06109305
Belarus	5.8000035	4.72530601	5.04526732	7.04319268	11.4497429	9.40000167	9.99999466	8.60000654	10.1999996	0.19999524	7.7936979	5.5437107	1.73139276	1.02398546	1.72308569
Belgium	3.63365201	0.81154361	1.7805063	0.77456723	3.63468067	2.09427271	2.50614012	3.44897379	0.78317304	-2.25317463	2.74421327	1.79830266	0.23479692	0.20065044	1.29326524
Bolivia	2.50780755	1.68380094	2.48556485	2.71134071	4.17329432	4.42143477	4.79700917	4.56438275	6.1484972	3.35700126	4.12672256	5.20409272	5.12227466	6.79601171	5.46056975
Brazil	4.11248424	1.38283203	3.05401649	1.13988687	5.76441161	3.19646411	3.95729683	6.06035358	5.09085791	-0.12577515	7.54179864	3.98527761	1.93310789	3.01030558	0.50821025
Bulgaria	4.94055378	3.77021779	5.9375164	5.15621844	6.43535832	7.12351108	6.87435838	7.34442191	6.0218834	-3.58614563	1.3240878	1.91490585	0.03096987	0.86216509	1.32875674
Burundi	-0.85686406	2.05580711	4.44651942	-1.22372796	4.83365776	0.9	5.3846574	4.78583195	5.04811878	3.46842543	3.78590254	4.19162568	4.01936553	4.59405422	4.66091818
Cambodia	10.7119948	7.44660698	6.5789395	8.50589556	10.3405288	13.2500869	10.7710837	10.2125739	6.69157747	0.08669696	5.96307858	7.06956995	7.31334551	7.35666515	7.1425711
Canada	5.18269029	1.77081909	3.01001631	1.80227331	3.08596121	3.20138214	2.62341262	2.06274769	1.00036097	-2.94958764	3.08351422	3.141219	1.74547228	2.47500186	2.8557392
Chad	-0.87968103	11.6581347	8.49120982	14.721667	33.6293719	17.3325337	0.64826201	3.27149958	3.05269153	4.21769555	13.5501009	0.0828698	8.88257607	5.70000136	6.89998505
Chile	5.32693842	3.30304731	3.10697053	4.09104768	7.20953971	5.74283049	6.31717634	4.9053245	3.52953055	-1.56423944	5.8441773	6.11091883	5.318628	4.0450043	1.76673978
China	8.49150849	8.33991055	9.13064594	10.035603	10.1112235	11.3957759	12.719479	14.231388	9.65428937	9.39981317	10.6361405	9.53644301	7.85626211	7.75763515	7.29766596
Colombia	4.419993	1.67789831	2.50398047	3.9182719	5.33302207	4.70655593	6.69751526	6.90062766	3.54680489	1.65154925	3.9718007	6.58951152	4.04394381	4.87406558	4.39360834
Costa Rica	3.73453301	3.49046943	3.2917532	4.25547625	4.33657511	3.87087307	7.23773281	8.16789635	4.64959823	-0.97054831	4.95186384	4.30710166	4.79691992	2.2690274	3.51533856
Cyprus	5.72440174	3.60066503	3.39910437	2.47586951	4.57030348	3.72431773	4.51018332	4.82071054	3.86396606	-1.77245075	1.3177778	0.321196	-3.05827402	-5.93395845	-1.40376777
Czech Republic	4.26674136	2.90876488	1.65249405	3.60298946	4.90656376	6.53346881	6.85352233	5.60264368	2.68228272	-4.80257209	2.27342005	1.77783319	-0.79984428	-0.48367104	2.71511613
Denmark	3.74690021	0.8231493	0.46634493	0.39007387	2.66819346	2.33666449	3.91298015	0.909253	-0.51202522	-4.90652556	1.87099264	1.33677467	0.22646848	0.93334928	1.61937497
Dominican Republic	4.66176228	2.45951637	4.4951034	-1.34570619	2.57013428	9.42823695	9.17435541	7.41595171	3.20950426	0.94615517	8.33965106	3.133423	2.7173679	4.87520509	7.63603182
Ecuador	1.09180156	4.0156299	4.09677666	2.72287734	8.21102092	5.29130827	4.40352643	2.19006397	6.3571306	0.56649159	3.52529867	7.86814092	5.64196207	4.94651127	3.78886855
Egypt	5.36799767	3.53525197	2.37046009	3.19228475	4.0899404	4.47896016	6.85390779	7.090271	7.15761678	4.67384486	5.14510637	1.77959403	2.21560878	2.18546605	2.91591188
El Salvador	1.12605705	0.87731889	1.58086227	1.56223108	0.89078605	2.70746777	4.34289538	1.86057915	2.12722507	-2.08339422	2.10621312	3.81181478	2.81407469	2.37519434	1.97925673
Fiji	-1.69999854	1.99999947	3.20000051	0.99999847	5.30000029	0.70000038	1.85248309	-0.85065353	1.03279422	-1.38603748	2.95467207	2.70514297	1.41131366	4.73422041	5.60351452
Finland	5.63484745	2.58079208	1.68032509	1.99398409	3.92605718	2.77995503	4.05519744	5.18480081	0.72066849	-8.26903656	2.9923375	2.57081774	-1.42618936	-0.75803629	-0.63172809
France	3.87516226	1.95444942	1.11845689	0.81953167	2.78642411	1.60771381	2.3749469	2.36149887	0.19529477	-2.94134106	1.96565738	2.07922917	0.18269303	0.57624155	0.94758647
Gabon	-1.8829664	2.13523342	-0.24903317	2.24733001	0.68954306	2.67621156	-2.80659506	6.00811574	-3.30842038	0.13033198	7.08869205	7.09201033	5.25236593	5.63892873	4.31399532
Germany	2.96204537	1.69547145	0	-0.70990617	1.16997041	0.70671395	3.70015957	3.2605353	1.0823154	-5.61886043	4.0799333	3.66000016	0.49199283	0.48958448	1.92969041
Ghana	3.70000011	4	4.4999997	5.19999998	5.59999999	5.90000395	6.39991242	4.34681915	9.14979909	4.84448689	7.89971191	14.0471236	9.29278941	7.31252502	3.98586562
Greece	3.91977077	4.13161208	3.92287184	5.79453126	5.06099256	0.59914206	5.65243372	3.27374686	-0.33517256	-4.30073367	-5.47903711	-9.13249415	-7.30049394	-3.24142503	0.73977712
Guatemala	3.60886875	2.33257416	3.86662655	2.53078995	3.15208183	3.26011104	5.37977677	6.30405651	3.28115228	0.52567459	2.86990289	4.16194592	2.97002541	3.69717734	4.17440063
Haiti	0.87005979	-1.04437489	-0.25146434	0.36380035	-3.52288817	1.80501123	2.2492216	3.34327901	0.84394433	3.08324769	-5.49779234	5.52373775	2.88509605	4.23405289	2.8101485
Honduras	5.74814817	2.72319327	3.75433786	4.54703805	6.23230296	6.05059922	6.56724355	6.18832717	4.23160011	-2.43162788	3.73114034	3.83569066	4.12868775	2.79155976	3.05808056
Hungary	4.20917993	3.84051044	4.52820592	3.84861966	5.00491802	4.38821517	3.85117297	0.43476164	0.85551304	-6.59997406	0.68237815	1.66191674	-1.6437799	2.09621671	4.22773335
Iceland	4.60299209	3.92753552	0.55050496	2.35671293	8.07428869	6.39052648	5.01718744	9.42828062	1.65891375	-6.50525442	-3.60563698	1.96302398	1.31926009	4.30813787	2.20034689
India	3.84099116	4.82396626	3.80397532	7.86038148	7.92294342	9.28482462	9.26396476	9.80136034	3.89095706	8.4797839	10.2599631	6.6383638	5.45638755	6.3861064	7.41022761
Indonesia	4.92006775	3.64346645	4.49947539	4.78036912	5.03087395	5.6925713	5.50095179	6.34502223	6.0137036	4.62887118	6.22385418	6.16978421	6.03005065	5.55726369	5.00666843
Iraq	1.40647473	2.30531667	-6.90018069	-33.1008374	54.1577743	4.40061741	10.1581991	1.37759815	8.2281071	3.37929909	6.40256484	7.5464712	13.9364302	7.6	0.7
Ireland	9.55988922	5.80363738	6.30927415	3.1195091	6.6812276	6.0063833	5.52166708	5.20871639	-3.93592907	-4.6267716	1.80167903	2.98490774	0.03715475	1.638845	8.32837931
Italy	3.71010659	1.77218876	0.24854744	0.15131819	1.58193886	0.94966626	2.00658665	1.47386855	-1.05040283	-5.48205504	1.6865234	0.57662302	-2.81901378	-1.7281608	0.11367324
Japan	2.77963283	0.4063359	0.11799278	1.52822015	2.20468788	1.66267041	1.42000656	1.65418388	-1.0935406	-5.4164128	4.19173926	-0.11542134	1.49508959	2.00026784	0.37471948
Jordan	4.24524742	5.26861657	5.78448068	4.1610503	8.56729789	8.14658329	8.09333116	8.17571902	7.23240848	5.47658105	2.31139247	2.58678433	2.65117056	2.8287668	3.09633028
Kazakhstan	9.8	13.5	9.8	9.3	9.6	9.7	10.7	8.9	3.3	1.2	7.3	7.4	4.8	6	4.2
Kenya	0.59969539	3.7799065	0.54685953	2.93247555	5.10429978	5.90666608	6.4724943	6.85072977	0.23228275	3.30693982	8.40569922	6.10826372	4.56320913	5.87868948	5.35711678
Korea	8.92442603	4.52530676	7.43243361	2.9332179	4.89984045	3.92367739	5.17615382	5.46339639	2.82922317	0.70750995	6.49679359	3.68168857	2.29239785	2.89620494	3.34144776
Kuwait	4.69458199	0.72902641	3.00000001	17.3200004	10.7621943	10.075951	7.52024923	5.99166125	2.47984383	-7.07610262	-2.36706194	9.62843608	6.62638808	1.14903885	0.50087698
Kyrgyz Republic	5.42667385	5.32158429	-0.01735317	7.03029614	7.02685972	-0.17554823	3.10289869	8.5428749	8.40161596	2.8862947	-0.47156685	5.95627438	-0.08815019	10.9154694	4.02403863
Laos	5.79878233	5.75141288	5.91874368	6.0670023	6.35769548	7.10756837	8.61926621	7.5968288	7.82490276	7.50177491	8.52690552	8.03865268	8.02609843	8.02630023	7.61196344
Latvia	5.40685848	6.46131018	7.10302991	8.43069122	8.3355468	10.6970371	11.8893854	9.97926933	-3.54764422	-14.4016918	-3.94067031	6.38102126	4.03462837	2.42985121	1.85824365
Libya	3.67921329	-1.76287817	-0.95884938	13.0160011	4.46162998	11.8707289	6.50054723	6.35231699	2.66735579	-0.79014183	5.02128974	-62.0759196	123.139555	-13.6	-24
Lithuania	3.83166714	6.52443088	6.76074953	10.5385648	6.55008303	7.72740792	7.40644436	11.0869544	2.62807796	-14.8141633	1.63981965	6.04313072	3.82695401	3.49858087	3.53758582
Luxembourg	8.23979911	2.53197492	3.8194698	1.62928705	3.61217671	3.17244273	5.17848597	8.35455321	-1.27958557	-4.35860701	4.86496856	2.53923484	-0.35251936	3.65437039	5.77191588
Macedonia	4.54913578	-3.06724566	1.49402868	2.22222222	4.67442836	4.72337753	5.13702516	6.47348686	5.47171177	-0.35861584	3.35876011	2.33989228	-0.45618441	2.92526532	3.62964131
Malawi	1.57607784	-4.97496385	1.70000001	5.70563944	5.42049769	3.26872583	4.69999999	9.6	7.63973677	8.32811028	6.87406564	4.85405511	1.88579951	5.2	5.7
Malaysia	8.85886817	0.51767532	5.39098832	5.78849928	6.78343774	5.33213914	5.58484707	6.29878593	4.8317699	-1.51352873	7.42484739	5.29391284	5.47345419	4.69372252	6.00672195
Malta	6.77019391	0.60835374	2.98281838	2.54376857	0.44341253	3.78365226	1.82871688	3.98644871	3.34651273	-2.46227772	3.54268321	1.32282749	2.71280732	4.61110626	8.11423959
Mauritania	-0.43040626	2.00879692	0.66500416	5.97825335	5.74742354	8.96942232	18.8690993	2.81783677	1.07996717	-1.0420817	4.77369717	4.70406653	5.79507817	6.09025873	5.57954386
Mauritius	9.0266141	2.57357029	2.11331329	3.6568564	5.74576753	1.24138754	8.53825561	5.72701614	5.38696257	3.31507699	4.37720324	4.07753807	3.49611834	3.3604061	3.74457443
Mexico	4.94245371	-0.40439013	-0.03984448	1.44638268	3.92059081	2.30780707	4.49507789	2.29144572	1.14358458	-5.28574414	5.11811814	3.66300793	3.64232268	1.35409196	2.84528374
Mongolia	1.14606214	2.95271054	4.73297847	7.00463457	10.625406	7.25366544	8.55623481	10.2480164	8.90036795	-1.26859894	6.36516168	17.2907776	12.3198198	11.6489162	7.88522548
Morocco	1.91287298	7.31996745	3.12144966	5.96116215	4.79701836	3.29163968	7.57463164	3.53159415	5.92327769	4.24375732	3.81571792	5.2456973	3.00996126	4.5354242	2.66949393
Mozambique	1.67850298	12.7209658	8.79405758	6.50060667	7.81118611	8.72066788	9.85105546	7.42606099	6.87620545	6.35197029	6.68722163	7.11760663	7.19818583	7.1416833	7.44406949
Myanmar	13.7459306	11.3439971	12.0255134	13.8439969	13.5646616	13.56895	13.0761014	11.9914352	10.2553054	10.5500091	9.63443945	5.59148238	7.33267045	8.42600102	7.99124334
Nepal	6.19999999	4.79976264	0.1202669	3.94503777	4.68260325	3.47918105	3.36461479	3.41156028	6.10463914	4.53307872	4.81641465	3.42182824	4.78119226	4.12887768	5.98898466
Netherlands	4.23876307	2.12426434	0.10362998	0.28392258	2.03070631	2.160366	3.51863696	3.69847311	1.69906078	-3.76758354	1.40266218	1.66362634	-1.0570374	-0.1903392	1.4196903
Oman	5.40137272	4.4824541	-1.10056525	-2.66896945	1.29211256	2.49045836	5.3720683	4.4526943	8.19969581	6.11245376	4.80471129	-1.10874579	9.33267558	4.37261578	2.75103164
Pakistan	4.26008801	1.98248403	3.22442997	4.84632094	7.36857136	7.66730427	6.17754204	4.83281728	1.70140547	2.83165852	1.60669196	2.74840255	3.50703342	4.39645663	4.67470798
Paraguay	-2.31414603	-0.83405791	-0.02140197	4.32074992	4.05741917	2.13348617	4.80712026	5.42162246	6.35911702	-3.96569589	13.0930037	4.34240709	-1.23896851	14.0362777	4.72233374
Peru	2.6943714	0.61789233	5.45352894	4.16502314	4.95820321	6.28506033	7.52889904	8.51838777	9.1265883	1.09582366	8.33245911	6.3271924	6.13972471	5.85251821	2.37602287
Philippines	4.41122216	2.89398706	3.64590332	4.9703687	6.69762361	4.77766782	5.24296036	6.61666228	4.15275684	1.14833222	7.63226478	3.6597516	6.68381888	7.06402426	6.14529879
Poland	4.55957118	1.24800544	2.04160389	3.56247155	5.13564952	3.49365852	6.17960399	7.03480199	4.24971147	2.82025976	3.60692826	5.0172352	1.60790664	1.39189232	3.28314626
Portugal	3.787494	1.94330522	0.76879572	-0.93420516	1.81158304	0.76678444	1.55305384	2.49200245	0.19927225	-2.9781048	1.89869118	-1.82685235	-4.02825675	-1.13015582	0.89318772
Qatar		3.89818662	7.18215174	3.71995864	19.2189153	7.49275851	26.1702457	17.9856568	17.6635564	11.9565611	19.5923315	13.3751764	4.68725918	4.41027462	3.97888215
Romania	2.39509453	5.59200234	5.18419222	5.52427784	8.35859128	4.17191431	8.05556015	6.86375738	8.25986878	-5.91036027	-2.81159948	2.02977799	1.23818257	3.53159797	3.07631397
Russian Federation	10	5.09198423	4.7436699	7.29585433	7.17594919	6.37618703	8.15343197	8.53508021	5.24795353	-7.82088503	4.50372563	5.28488542	3.65590157	1.7853545	0.73860077
Saudi Arabia	5.62541614	-1.21074386	-2.8191744	11.2420614	7.95844166	5.57385012	2.78840223	1.84713025	6.24977275	-2.05926819	5.03949367	9.99685779	5.4114449	2.69925472	3.6524817
Serbia	7.75920941	4.99271403	7.11578809	4.41541406	9.04651306	5.54042697	4.90434886	5.88876008	5.36668342	-3.11597169	0.58447809	1.40146574	-1.01527039	2.57173411	-1.83130111
Singapore	8.89754442	-0.95229007	4.21168655	4.43532815	9.54917548	7.48915746	8.86019611	9.11152715	1.78762023	-0.6033883	15.240377	6.3506732	4.08329765	5.11108726	3.88388731
Slovak Republic	1.21017338	3.31646819	4.52279224	5.41871593	5.2588364	6.75096083	8.45288775	10.799577	5.62977902	-5.42254231	5.04171667	2.81909952	1.65714869	1.49064644	2.75033502
Slovenia	4.15543396	2.94936553	3.83630528	2.84208301	4.35179554	4.00300736	5.65599921	6.94164567	3.3001303	-7.79727658	1.23775591	0.64936693	-2.66958205	-1.13205498	2.97919604
South Africa	4.15454458	2.73549529	3.66779688	2.94907815	4.55456992	5.27711173	5.60366479	5.36046514	3.19105165	-1.53810086	3.03977706	3.28416505	2.21353265	2.48518583	1.84700844
Spain	5.2890996	4.00107384	2.8798761	3.18757148	3.1667465	3.72300179	4.17412319	3.76899241	1.11768686	-3.57375145	0.01406388	-0.99876496	-2.92775051	-1.705705	1.37999724
Sri Lanka	6.00003316	-1.54540813	3.96467569	5.94026908	5.44506128	6.24174804	7.6682919	6.79682612	5.95008815	3.53891205	8.01595941	8.40473813	9.14457939	3.39572277	4.96070654
Suriname	-0.06868722	4.55307742	4.29994441	6.01015454	9.25603196	4.57071492	3.84213742	5.11148781	4.14340653	3.01369863	5.16882516	5.84936778	2.69035006	2.93344123	0.25550314
Sweden	4.73528713	1.56341028	2.07357721	2.38574024	4.32052981	2.81832962	4.68812715	3.4049489	-0.55704763	-5.18465903	5.98892655	2.66440795	-0.28632062	1.24120492	2.60432656
Switzerland	3.93682345	1.31242367	0.1626129	0.03957657	2.7762235	3.11524553	3.98863422	4.11187781	2.15470186	-2.22210712	3.00269911	1.6928085	1.0060241	1.85203976	2.4492181
Syrian Arab Republic	2.7428574	5.20094281	5.9	0.6	6.9	6.2	5	5.7							
Tajikistan	8.30000101	10.2000011	10.7999999	10.9999971	10.3000017	6.69999706	7.00000189	7.80000134	7.89999783	3.80000099	6.50000035	7.39999938	7.49999917	7.40000057	6.69925066
Thailand	4.45567603	3.44424377	6.14887982	7.18932996	6.28928855	4.18783492	4.96791682	5.43509257	1.72566791	-0.69073335	7.51359066	0.83995947	7.24278661	2.68737992	0.98441406
Trinidad and Tobago	6.9013595	4.16852408	7.93670964	14.4414164	7.94959364	6.20899299	13.2080578	4.75418996	3.39042137	-4.39059248	3.32333051	-0.29435443	1.29397895	0.98084981	-0.25216276
Tunisia	4.70985995	3.79618383	1.32256362	4.70241181	6.23579387	3.48653582	5.24419518	6.70962039	4.23777684	3.04344895	3.51060864	-1.91717768	3.997674	2.87552384	2.97139835
Turkey	6.64006126	-5.96231069	6.4302786	5.60825502	9.64432266	9.00985321	7.10970338	5.03045778	0.84525144	-4.70446598	8.48737219	11.1134955	4.78994021	8.49130939	5.1666907
Ukraine	5.9	9.20000001	5.19999997	9.40000001	12.1	2.69999998	7.30000003	7.90000077	2.29999999	-14.8	4.20000002	5.46553191	0.23868131	-0.02672965	-6.55261889
United Kingdom	3.66412896	2.54413057	2.45787762	3.32590932	2.36445534	3.09608894	2.45599965	2.35670823	-0.47254032	-4.18775944	1.69454714	1.45262397	1.48132983	2.05238851	3.05425101
United States	4.09217645	0.97598183	1.78612769	2.80677596	3.78574285	3.34521606	2.66662583	1.77857026	-0.29162146	-2.77552957	2.53192062	1.60145467	2.22403085	1.67733153	2.56919359
Uruguay	-1.92993064	-3.84412997	-7.73200721	0.80528392	5.00416037	7.46013211	4.09857736	6.54151085	7.17614466	4.24349418	7.80340967	5.16213303	3.53817871	4.63753864	3.23879122
Venezuela	3.68694417	3.39423611	-8.85564735	-7.75530005	18.2866067	10.3179138	9.87214911	8.75357881	5.27785412	-3.20230266	-1.48879125	4.17642536	5.62595698	1.34309404	-3.89438647

GDP per capita (current USD)

GDP per capita - nominal	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014
Afghanistan		117.409691	187.845095	198.7285436	219.1413528	250.2941299	272.563077	369.835796	373.3611163	445.8932979	553.3002894	603.5370231	669.0090509	638.6125432	629.3452504
Albania	1175.78898	1326.97034	1453.642777	1890.681557	2416.588235	2709.142931	3005.012903	3603.013685	4370.539647	4114.136545	4094.358832	4437.178068	4247.614308	4413.081697	4578.666728
Argentina	7669.27392	7170.69467	2579.193168	3330.437006	4251.574348	5076.883829	3005.012903	7193.61764	8953.359275	8161.306966	10276.2605	12726.90836	12969.70712	12976.63642	12245.25645
Australia	21669.4109	19482.5679	20074.22931	23437.31215	30401.55479	33961.6818	3005.012903	40905.47089	49535.25787	42709.8033	51936.88871	62411.78545	67864.68986	67990.29003	62327.55594
Austria	24564.4583	24537.5143	26401.74546	32222.89724	36821.52147	38403.13388	3005.012903	46855.77175	51708.76575	47963.1794	46858.04327	51374.95841	48567.69529	50716.70871	51704.54119
Bangladesh	405.603307	402.598115	400.6135745	432.7388972	460.7579167	484.1554071	494.0501466	541.0651484	615.7775411	681.1205368	757.6717572	835.7893401	856.342857	951.8894535	1084.56543
Belarus	1276.28803	1244.37319	1479.314583	1819.766059	2378.623286	3125.810535	3847.434124	4735.657608	6377.369732	5176.26383	6029.3968	6519.230195	6940.159254	7978.872615	8318.51269
Belgium	23207.4059	23121.6011	25052.33939	30743.90254	35589.68912	36967.25918	38852.37293	44403.7669	48424.5756	44880.57302	44380.17663	47702.81189	44740.58325	46582.66955	47351.97418
Bolivia	1007.00287	958.236652	913.5756262	917.3643105	978.3346485	1046.427384	1233.594435	1389.637343	1736.935051	1776.866476	1981.160705	2377.675918	2645.227753	2947.938526	3124.00031
Brazil	3739.11614	3146.9489	2819.64812	3059.586507	3623.049312	4770.183845	5860.145829	7313.557773	8787.610658	8553.381368	11224.15408	13167.47289	12291.46685	12216.90446	12026.61939
Bulgaria	1609.88245	1757.44378	2076.830682	2698.624248	3363.799644	3869.529455	4490.201777	5885.949252	7261.754492	6969.558557	6843.26695	7813.806692	7378.02473	7674.861867	7853.332937
Burundi	135.998445	133.742769	122.4335893	112.8493703	127.4296648	150.5070434	165.8794176	170.7999005	196.2472628	204.9446502	231.1943256	260.4799073	265.2856051	282.7555252	312.7489794
Cambodia	302.648996	321.2263	339.0676984	362.4213785	408.6105184	474.2238766	539.8791529	631.675789	745.7877873	738.2326684	785.6928841	882.4901462	951.1112311	1013.665952	1093.762067
Canada	24124.1692	23691.5947	24167.80431	28172.14883	31979.87195	36189.58838	40386.69948	44544.5268	46596.33599	40773.45436	47447.47602	52082.21076	52496.69487	52418.31506	50633.20882
Chad	166.023178	197.315644	220.8054821	292.5914364	454.6765879	660.2421396	712.1847694	801.683884	929.7702391	804.4559039	896.5697341	989.2363633	973.4702574	986.0103177	1025.998515
Chile	5101.36848	4595.66633	4463.545867	4787.699532	6210.828325	7615.30468	9484.681227	10526.87746	10781.36608	10243.32824	12860.17764	14705.69242	15431.90293	15941.39722	14794.31583
China	959.372484	1053.10824	1148.50829	1288.643252	1508.668098	1753.417829	2099.229435	2695.365917	3471.248054	3838.433972	4560.512586	5633.795717	6337.883323	7077.770765	7683.502613
Colombia	2472.19783	2395.85655	2355.725857	2246.257472	2740.249442	3386.0256	3709.078776	4674.21961	5433.72045	5148.422113	6250.655044	7227.73968	7884.984429	8030.58603	7913.383432
Costa Rica	3808.36369	3981.52805	4062.014965	4167.714107	4425.507467	4697.011135	5245.187372	6120.6234	6911.136152	6809.396224	8199.414621	9186.59639	9985.36959	10569.66631	10630.9979
Cyprus	10795.578	11004.376	11892.19403	14671.33633	17242.87665	18199.77694	19515.57898	22635.32852	25740.02713	23625.52588	22975.09512	24383.27535	22061.67788	21054.86206	20271.72759
Czech Republic	6011.61522	6609.20553	8032.896612	9773.117503	11685.88724	13346.17639	15183.63605	18373.649	22698.85396	19741.59763	19808.07109	21717.45794	19729.87051	19916.01939	19744.55861
Denmark	30743.5592	30751.6495	33228.69291	40458.77064	46511.60457	48799.82037	52026.99311	58487.04501	64322.06664	58163.29359	58041.41122	61753.66007	58507.50021	61191.19263	62548.98502
Dominican Republic	2838.51333	2943.42194	3098.051705	2413.410133	2492.868226	3910.017774	4067.332917	4647.310359	5011.037937	4952.677503	5453.926861	5765.496453	5973.222937	6094.734904	6348.837769
Ecuador	1451.29078	1903.74157	2183.966796	2440.468905	2708.557892	3021.942547	3350.786541	3590.718086	4274.952065	4255.565701	4657.302361	5223.351763	5702.104313	6074.090829	6396.630483
Egypt	1428.183	1370.71744	1210.229249	1120.874928	1045.943208	1168.115231	1375.196316	1640.476068	2011.246154	2291.667062	2602.479549	2747.480327	3181.441708	3213.389158	3327.754247
El Salvador	2008.46606	2079.68382	2131.90982	2217.837156	2287.173057	2437.899565	2641.780652	2796.387081	2943.698878	2867.98508	2992.545274	3275.508626	3437.599638	3515.947201	3595.790733
Fiji	2076.01331	2038.89173	2259.055796	2835.973972	3332.918533	3658.630832	3749.939813	4078.82327	4177.657789	3369.408247	3651.966784	4353.121392	4546.738504	4763.068956	5061.397575
Finland	24253.2504	24913.2445	26834.02625	32816.16088	37636.11173	38969.17163	41120.67651	48288.5491	53401.31487	47107.15571	46202.41516	50790.72415	47415.55987	49638.07713	49914.61864
France	22364.0294	22433.5557	24177.33517	29568.38595	33741.26515	34760.18777	36443.62344	41508.43269	45334.11091	41575.41618	40638.334	43790.7354	40874.71596	42592.95152	43008.65257
Gabon	4116.46069	3976.10489	4102.55271	4892.011618	5685.577736	6826.880545	7141.549167	8352.811117	10094.02746	7603.660223	8754.142234	10716.22443	9774.193026	9679.723562	9692.136739
Germany	23718.7467	23687.3169	25205.16445	30359.95215	34165.93403	34696.62092	36447.87232	41814.8191	45699.19832	41732.70725	41785.55691	46810.32796	44065.24891	46530.91143	48042.56343
Ghana	263.112468	273.659667	309.4844703	373.2815537	423.1936389	498.1723904	922.9537497	1090.686718	1224.401554	1086.765038	1312.607557	1574.978653	1629.800222	1814.492297	1449.662816
Greece	12042.9537	12538.1788	14110.31339	18477.57841	21955.10409	22551.73574	24801.15781	28827.32636	31997.28201	29710.9703	26917.75898	25916.29353	22242.68193	21874.8195	21760.9798
Guatemala	1655.58773	1568.37628	1701.771491	1753.349471	1872.737083	2077.83438	2256.56724	2489.955836	2794.221809	2635.753474	2825.52407	3187.845296	3299.605139	3452.828934	3687.763767
Haiti	462.481438	413.737738	393.0160609	329.7820946	387.9428911	465.3103865	505.4706206	615.8202308	674.7564147	668.2976046	662.2795182	740.9358452	766.8437623	810.2656073	830.1138816
Honduras	1088.77987	1130.40505	1132.872001	1157.30427	1217.657961	1311.741714	1437.628785	1592.572182	1751.595857	1815.489496	1932.85829	2120.589469	2178.388555	2136.771718	2242.707459
Hungary	4633.31292	5283.03446	6665.961242	8423.350987	10296.33979	11205.97134	11447.81687	13907.50338	15739.73541	13029.88338	13092.23376	14118.12263	12888.30459	13667.70279	14201.44883
Iceland	31746.0231	28551.7853	32024.1856	39086.77319	46984.06654	56250.68281	56121.32242	68428.34821	55632.10432	40640.9902	41851.73548	46181.95294	44562.81802	48023.62691	52855.14048
India	438.86463	447.013897	466.2008042	541.1352279	621.3183767	707.008019	792.0259698	1018.166373	991.4846304	1090.317765	1345.770153	1461.671957	1446.98541	1452.195373	1576.004018
Indonesia	780.092074	747.981745	899.5556857	1064.509447	1148.569096	1260.928834	1586.20504	1855.093915	2160.527605	2254.445592	3113.480635	3634.276805	3687.953996	3620.663981	3491.595887
Iraq					1391.816923	1849.603911	2351.812429	3129.224922	4521.03247	3735.144836	4502.749048	5854.614497	6651.12242	6925.224046	6703.074737
Ireland	26241.5145	28227.2771	32539.95521	41107.03106	47630.92649	50878.63952	54306.9131	61359.64508	61257.89689	52104.03472	48671.88829	52186.49627	49042.33825	51773.11137	55412.9286
Italy	20051.2422	20400.8111	22196.50675	27387.22632	31174.56109	31959.26295	33410.74744	37698.78665	40640.18386	36976.84553	35849.3732	38334.68385	34814.12512	35370.27526	35396.66572
Japan	38532.0409	33846.4656	32289.35054	34808.39092	37688.72234	37217.64873	35433.98896	35275.22843	39339.29757	40855.17564	44507.67639	48167.99727	48603.47665	40454.44746	38109.41211
Jordan	1657.88926	1728.26051	1812.288374	1889.213962	2061.456882	2203.083787	2537.30049	2762.806354	3385.609665	3492.130906	3679.190275	3807.324145	3870.753211	3992.867107	4066.940775
Kazakhstan	1229.00096	1490.92709	1658.030785	2068.124118	2874.288291	3771.278957	5291.57565	6771.414797	8513.564645	7165.223175	9070.488253	11634.0019	12386.7	13890.63177	12807.26069
Kenya	403.979713	401.776361	395.8493511	436.6875357	458.8843551	519.7999346	697.0066385	839.1081117	916.8992515	920.0816252	967.3504549	987.4809095	1153.232231	1229.101115	1335.123262
Korea, Rep.	11947.5791	11252.9076	12782.52553	14209.38852	15907.66583	18639.52221	20888.38015	23060.70788	20430.63946	18291.9196	22086.95292	24079.78852	24358.78218	25890.01867	27811.36638
Kuwait	18389.3843	16540.9676	17789.41981	22071.56961	26921.08278	35490.26132	42717.55725	45793.97614	55571.99806	37567.30121	38497.61696	48268.5912	51264.07134	48399.80782	42996.31522
Kyrgyz Republic	279.620523	308.408777	321.726538	380.5073624	433.2351189	476.55213	543.1107024	721.7686908	966.3936272	871.2243893	880.0377751	1123.883168	1177.974735	1282.437162	1279.769783
Laos	324.84505	326.640843	319.8270584	362.6252958	417.7516561	475.4164695	590.3013108	709.767087	899.4950787	948.1276421	1141.127115	1381.425606	1588.633147	1838.80602	2017.587781
Latvia	3352.7313	3572.80513	4132.349207	5134.905694	6351.080125	7558.742006	9667.9757	14044.01589	16348.53121	12219.37379	11326.21947	13702.68947	13822.80559	15032.28201	15716.36907
Libya	7145.62849	6269.58012	3705.442638	4676.967503	5806.083604	8171.361651	9344.987518	11308.56661	14396.04865	10296.97353	12120.56217	5602.549434	13209.14078	10571.85076	6631.529047
Lithuania	3297.3547	3530.14734	4146.987928	5505.535669	6706.966998	7863.162009	9240.642548	12297.91535	14961.56818	11837.39103	11984.86857	14357.73523	14341.18163	15693.78673	16545.12267
Luxembourg	48735.9955	48179.4209	52930.64115	65445.88503	75716.35108	80289.69641	89739.7117	106018.4928	114293.8433	103198.6693	104965.3061	115761.5077	106749.0136	113625.1329	119225.38
Macedonia	1854.14596	1815.92009	1961.203736	2408.80011	2762.561701	3037.754585	3325.613242	4036.140237	4793.292959	4543.890244	4542.904104	5064.041106	4698.689476	5211.4992	5469.217898
Malawi	153.259509	146.76154	290.9798977	260.1052517	274.2256294	280.3673842	297.6971211	320.2227274	372.842678	420.7379657	458.8681744	512.1254051	374.5018802	332.9223039	354.7253961
Malaysia	4045.17047	3915.11505	4167.364387	4463.675893	4955.477743	5593.822995	6222.982955	7269.17114	8513.629541	7326.744435	9071.356987	10405.12062	10779.50751	10882.2891	11183.72943
Malta	11039.0565	11021.7864	11843.93902	13689.98999	15109.05497	15835.34667	16671.5672	19375.5696	21928.70067	20675.58259	21087.79469	22840.20213	21926.0604	23816.66697	25851.65933
Mauritania	477.476102	464.229758	460.9542322	528.5806613	602.547286	697.7452864	944.1304851	1013.310149	1167.535733	1046.837935	1203.383663	1393.261734	1364.283926	1450.577949	1326.668654
Mauritius	3861.03241	3792.18215	3957.512906	4623.347642	5229.876738	5116.045424	5695.969327	6574.654338	8030.063005	7318.12641	8000.376432	9197.026972	9291.227619	9637.00265	10153.93822
Mexico	6959.38872	7341.88248	7398.80102	6903.949188	7310.961631	8089.409036	8859.715354	9412.827939	9765.716806	7792.247828	9016.457812	9912.582043	9940.468822	10400.56311	10580.97247
Mongolia	474.213336	524.014592	571.501883	646.0561295	797.8377432	998.8226671	1334.651896	1634.081431	2139.625631	1717.898761	2650.353648	3769.595269	4368.082248	4385.379355	4181.583313
Morocco	1346.88949	1352.19685	1431.157162	1744.54392	1975.726733	2042.622446	2223.591827	2531.275094	2927.73625	2903.958096	2876.204411	3085.030596	2947.9489	3158.207817	3201.851388
Mozambique	277.648659	256.441487	262.8840551	283.8911588	336.3318145	369.1545359	385.7567141	422.1461573	503.1277109	463.852618	419.2258149	526.5313517	566.0513873	605.9856081	623.2867539
Myanmar	193.18748	138.924928	143.7760051	219.782326	219.8156688	247.2427006	296.9007284	410.4500001	643.9513703	741.0777116	987.7365832	1186.423937	1175.561788	1171.464477	1260.422411
Nepal	231.4255	248.618354	246.3075621	253.7200412	287.4001056	317.089198	348.6314534	393.8843518	473.8444409	480.7200909	592.1835216	692.1166842	681.7925868	688.6172788	706.2386977
Netherlands	25921.1279	26584.1217	28817.32321	35245.16407	39954.64222	41577.16009	44453.97119	51241.31562	56928.82048	51900.34009	50338.25483	53540.60536	49474.70561	51574.48942	52157.40687
Oman	8601.18591	8476.61051	8629.101774	9069.810206	10129.28886	12376.97936	14408.0505	15805.13226	22075.03536	16784.34616	19281.00081	20986.08496	22134.80137	21268.83626	20469.13865
Pakistan	533.862411	510.656816	499.8600033	563.594342	649.8048233	711.4699463	873.7702727	950.4327931	1039.312088	1006.603999	1040.142268	1226.215314	1261.208967	1272.441061	1316.980966
Paraguay	1545.62642	1417.26058	1148.229882	1174.779347	1408.527976	1507.145691	1809.710539	2312.192926	3059.992184	2599.596259	3225.591754	3988.011894	3955.537735	4479.905858	4712.822736
Peru	1996.71969	1981.24365	2059.192958	2180.250997	2448.143899	2754.780029	3171.498056	3611.21047	4208.878011	4166.093387	5022.493191	5771.565878	6387.785281	6583.116248	6492.053208
Philippines	1038.91102	957.28075	1000.068168	1010.553198	1079.037182	1194.697116	1391.772292	1672.685411	1919.466208	1825.34154	2129.499247	2352.518156	2581.818548	2760.289146	2842.938353
Poland	4492.7276	4981.19862	5196.932921	5693.377763	6681.178818	8021.003655	9038.730847	11255.4367	14001.44688	11527.59323	12599.53358	13893.50926	13145.53926	13781.06261	14342.40202
Portugal	11502.3968	11729.1462	12882.28897	15772.7334	18045.5881	18784.9485	19821.44463	22780.05845	24815.60884	23063.97161	22538.65408	23196.18375	20577.40264	21618.73534	22077.53613
Qatar	29986.2902	28430.6364	29990.65492	34176.98183	41818.35256	51488.49529	60256.55926	67005.61258	82967.37228	61478.23813	70306.22784	85948.07046	88564.82298	88304.87958	86852.71019
Romania	1668.16273	1839.72945	2124.873613	2774.955806	3552.92452	4676.315183	5828.745662	8424.737535	10400.54366	8474.872003	8231.312771	9150.86862	8558.397606	9585.266593	10020.27733
Russian Federation	1771.5866	2100.36239	2375.059044	2975.132778	4102.372294	5323.473877	6920.194398	9101.253085	11635.26037	8562.809598	10674.98771	14351.21205	15434.57478	16007.08999	14348.96021
Saudi Arabia	9126.95428	8643.494	8655.311531	9567.458285	11138.80746	13739.82945	15334.66994	16472.16605	20037.83234	16094.2931	19259.58726	23770.74739	25303.09462	24934.38614	24575.40304
Serbia	870.136525	1634.87506	2149.909404	2832.490652	3331.228766	3528.131008	4129.758741	5458.121718	6701.773913	5821.305397	5411.877404	6423.291783	5659.380204	6353.826383	6200.173221
Singapore	23792.6071	21577.0782	22016.83279	23573.62804	27405.27136	29869.85398	33579.85948	39223.58187	39721.04818	38577.55822	46569.67951	53237.56491	54715.69483	56389.18178	56957.07857
Slovak Republic	5402.92975	5708.08266	6524.861878	8696.913242	10654.79371	11669.41975	13139.03218	16057.73314	18650.35912	16512.98197	16600.61359	18187.15744	17274.6423	18191.61279	18629.77966
Slovenia	10227.7368	10479.2963	11814.09994	14880.47154	17260.90151	18169.18091	19726.1265	23841.31792	27501.81027	24633.79785	23437.47202	24985.24827	22532.43564	23357.9392	24202.43084
South Africa	2982.00043	2621.55444	2461.355087	3678.102817	4745.071685	5277.925459	5506.196503	5994.195403	5695.05786	5831.115574	7275.382112	7976.466077	7478.227665	6822.52476	6433.944544
Spain	14676.7061	15323.6114	17019.53541	21495.70741	24918.64584	26510.71745	28482.60948	32709.40104	35579.30993	32334.00548	30736.62785	31835.2888	28563.85904	29211.77375	29623.16445
Sri Lanka	869.495692	832.74514	867.6360437	982.6418822	1066.588484	1250.004791	1437.071355	1633.008369	2041.290655	2095.531476	2808.545966	3213.874539	3350.611036	3609.142895	3820.678185
Suriname	1888.61829	1598.07751	2232.513244	2603.139009	3006.48773	3595.088055	5207.90002	5761.39536	6858.163158	7443.850178	8303.31332	8318.97692	9272.413453	9484.568098	9564.406383
Sweden	29283.005	26969.2446	29571.70446	36961.42537	42442.22045	43085.35315	46256.4716	53324.37937	55746.84238	46207.0592	52076.25591	59593.28711	57134.07707	60283.24522	59180.19898
Switzerland	37868.3231	38538.9901	41376.39399	48087.58314	53340.14766	54952.67372	57579.50195	63555.2375	72487.84593	69927.46877	74605.72102	88415.62806	83538.23008	85112.4644	86605.56338
Syrian Arab Republic	1177.62927	1258.42195	1263.013455	1253.391403	1408.852738	1577.457182	1762.246107	2058.035209							
Tajikistan	138.436603	170.815972	189.3878519	236.3014438	309.2801834	337.359236	404.2872665	520.035956	706.0914128	666.3458569	738.3475227	834.5412953	954.7205253	1040.214412	1104.459019
Thailand	2007.56483	1893.14538	2096.054617	2358.930629	2659.839108	2893.651356	3368.952576	3972.206475	4378.687406	4212.054902	5075.302176	5491.159981	5859.887644	6168.394881	5953.793928
Trinidad and Tobago	6430.94726	6935.72145	7049.626612	8804.518666	10290.51914	12323.12705	14095.96337	16530.18044	21188.11857	14508.8796	16683.94578	19053.97067	19098.94535	19713.37929	20081.20858
Tunisia	2213.91409	2254.93313	2346.05937	2761.969249	3112.835029	3194.562243	3371.71231	3778.184171	4310.093026	4129.977335	4140.15177	4256.91279	4137.54814	4199.084678	4270.307423
Turkey	4316.55389	3119.60317	3660.069826	4718.456754	6040.88491	7384.258482	8034.606676	9709.720022	10850.87039	9036.266711	10672.40016	11340.82362	11720.31386	12542.72153	12127.46072
Ukraine	635.708964	780.738024	879.4750486	1048.522488	1367.352433	1828.717626	2303.018831	3068.608998	3891.037823	2545.480341	2965.142365	3569.757027	3855.42128	4029.715504	2948.921357
United Kingdom	27982.3558	27427.5875	29785.98629	34173.97998	39983.98467	41732.64054	44252.31582	50134.3161	46767.59222	38262.18213	38893.01849	41412.34924	41790.77914	42724.06788	46783.46922
United States	36449.8551	37273.6181	38166.03784	39677.19835	41921.80976	44307.92058	46437.06712	48061.53766	48401.42734	47001.55535	48375.40695	49793.71352	51450.95911	52782.08651	54696.72617
Uruguay	6871.89768	6281.37705	4088.768855	3622.052284	4117.308853	5220.951116	5877.876078	7009.69705	9062.312171	9415.170382	11938.212	14166.49909	15092.06819	16881.20568	16737.89827
Venezuela	4783.53059	4926.31134	3655.97562	3232.524276	4271.372404	5432.688675	6735.797588	8318.803399	11227.23138	11536.14939	13545.26345	10741.57638	12755.00008	12237.19374	15692.41288

GDP per capita (purchasing power parity)

GDP per capita - PPP	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014
Afghanistan			875.51761	922.829449	916.334475	1011.59552	1065.61967	1210.47927	1247.06614	1482.09884	1581.60084	1660.73986	1873.15395	1913.16064	1937.23537
Albania	4029.01697	4457.11164	4754.6537	5114.7217	5522.98213	5942.88401	6631.83569	7291.23975	8228.33711	8813.252	9637.34537	10207.7647	10526.2412	10570.953	11259.2645
Argentina	11810.0614	11419.0589	10217.2731	11217.5719	12430.7137	13817.7141	6631.83569	16865.5448	17711.4418	16618.1209	18333.5437	19629.3518	19579.0065	20161.4968	19802.1
Australia	26316.9479	27348.1468	28706.4378	29678.4893	31311.6369	32539.0816	6631.83569	36512.5038	37409.1631	40234.4179	39274.7642	41894.1731	42733.9363	45794.4043	46742.8027
Austria	29375.4048	29739.9415	31178.6933	32106.466	33755.1429	35013.714	6631.83569	39385.7423	41316.2252	40919.1506	42047.0327	44452.7327	46457.3458	47922.0491	48787.4916
Bangladesh	1301.46328	1372.36251	1420.43125	1491.02359	1586.18217	1718.40287	1864.1945	2024.2321	2163.55443	2264.8715	2393.31583	2570.85015	2756.44347	2934.64435	3131.92266
Belarus	5994.55726	6453.90531	6927.55457	7616.45895	8781.63644	9984.19271	11389.5513	12756.635	14383.1674	14553.7954	15906.7562	17166.6956	17801.9187	18271.7543	18903.159
Belgium	27983.9961	28982.5951	30482.7847	31054.3054	32249.4995	33332.3313	35390.8535	36866.2656	38133.5015	38001.9909	40091.01	41248.7253	42354.6315	43519.7779	44601.3671
Bolivia	3497.27943	3570.05678	3647.57123	3753.05086	3946.70854	4180.31827	4438.6247	4684.94688	4986.88053	5108.87359	5298.08451	5598.50844	5899.64186	6303.06642	6662.82976
Brazil	9012.95543	9216.32138	9515.10002	9690.0725	10401.8433	10950.5698	11603.6024	12501.1284	13259.7294	13212.3785	14243.4921	14973.0985	15398.4287	15971.009	16195.8711
Bulgaria	6376.85746	6914.68884	7726.4014	8342.56817	9126.06782	10211.3149	11315.0101	12798.6946	14328.9295	14143.613	14948.5976	15676.1505	16208.2135	16631.6616	17508.8855
Burundi	597.718189	609.144754	628.199259	613.630039	639.874227	644.786603	677.382666	704.439859	729.462783	735.701234	748.380658	771.509424	793.080192	818.285213	846.094868
Cambodia	1097.75559	1182.05188	1255.6442	1366.00419	1523.77548	1753.44198	1971.62733	2197.82998	2355.79031	2340.38172	2471.89147	2658.70925	2858.71357	3067.55303	3291.28476
Canada	29185.3551	30073.9128	30851.3115	32189.0616	33754.8696	36134.6022	38009.876	39441.9678	40277.6193	38791.0747	40027.2402	41565.2712	42145.0979	44101.4714	45519.7939
Chad	787.225119	865.776382	917.828427	1033.58347	1366.99601	1596.83598	1600.20123	1640.78039	1668.57798	1695.96331	1886.25106	1863.84561	1999.03495	2077.06025	2187.62741
Chile	9571.97894	9994.17092	10343.2274	10858.8014	11831.3101	12774.7312	15773.823	16971.7667	16551.3072	16226.2069	18265.3425	20437.7045	21620.281	22578.7289	22978.1913
China	2933.31482	3226.84846	3551.66365	3961.27389	4455.20502	5092.55984	5883.71938	6863.98175	7635.07261	8374.43227	9333.12424	10384.3666	11351.0621	12367.965	13440.4775
Colombia	6585.33414	6750.68714	6927.32125	7241.33126	7732.31948	8248.35534	8957.34112	9710.9176	10132.2657	10260.2267	10680.003	11496.4777	12058.3438	12725.0437	13395.5162
Costa Rica	7829.81296	8139.8101	8397.30254	8793.38315	9289.50332	9817.00119	10697.4635	11714.2147	12329.9301	12141.935	12737.0202	13397.2305	14133.6882	14524.6715	15140.4704
Cyprus	21709.1551	23263.4339	23964.7554	24300.4632	26082.7596	28169.5569	30482.6076	32993.2823	34823.6542	33882.0965	33263.0158	33192.593	31914.6243	30620.7071	30383.5148
Czech Republic	16188.2272	17569.1058	18189.2344	19424.7547	20806.6089	21956.3839	23779.5737	26120.3751	27844.7953	27594.3469	27694.402	28797.418	29047.2464	30485.7142	32263.3158
Denmark	28657.5408	29474.1382	30640.345	30784.1352	32920.477	34150.1558	37300.4928	38961.7706	41278.3288	40332.4514	43041.542	44403.3941	44803.9622	46726.8533	47901.4476
Dominican Republic	6499.8535	6706.14489	7006.28607	6943.33021	7208.89874	8023.78232	8900.15465	9677.25737	10044.0996	10078.8701	10907.3564	11333.5471	11706.6926	12322.3862	13339.7627
Ecuador	5855.63475	6120.9309	6360.96873	6555.37274	7169.9723	7664.28927	8110.48556	8366.14544	8920.50083	8889.21353	9163.15914	9926.90344	10512.3188	11037.3468	11483.9968
Egypt	5856.22172	6086.41974	6207.54169	6410.52373	6728.86132	7124.48986	7708.04756	8327.41081	8939.28213	9255.38393	9658.06521	9823.82329	10003.3542	10156.4148	10407.7817
El Salvador	4483.29915	4595.67256	4712.58644	4856.11588	5009.56295	5285.92073	5659.10415	5891.54444	6107.96454	5999.64467	6173.31934	6511.44373	6786.56246	7026.60937	7258.96754
Fiji	5289.88152	5498.34166	5750.99192	5917.52896	6388.9939	6612.74769	6895.23752	6956.30487	7093.55025	6976.9837	7203.36569	7488.82938	7676.77869	8113.23615	8661.65588
Finland	26748.6311	27793.7183	28567.1712	28982.9239	31129.2996	31993.4073	34367.4743	37696.6476	39969.3876	37823.2292	38775.1749	40683.5276	40620.1761	41293.5158	41470.2024
France	26090.1017	27524.4299	28523.8857	28139.5571	29044.3961	30498.5793	32439.0618	34082.4592	35095.2602	34678.9416	35935.0262	37440.6415	37679.1333	39523.8701	40141.5903
Gabon	14095.073	14360.8976	14183.779	14415.991	14520.3039	14961.751	14555.8228	15369.2531	14686.6143	14347.323	15045.1582	15893.5477	16457.3922	17078.4986	17569.9544
Germany	27293.7676	28499.6061	29326.9121	29987.9125	31428.6306	31968.4674	34246.2076	36444.5157	38028.7721	37035.78	39225.6	42692.5198	43564.148	45232.1979	47092.4884
Ghana	1790.59779	1857.30789	1920.93958	2008.47881	2123.22505	2260.99958	2415.53741	2520.72806	2733.28535	2814.3581	2997.49649	3404.45957	3699.3572	3940.09738	4075.34121
Greece	19515.7893	20981.0139	22615.9356	23868.5244	25446.3833	25577.5241	28523.2423	29286.8729	30856.0118	30359.9253	28175.8555	26141.3196	25284.4641	26097.8719	26838.4552
Guatemala	4811.82562	4920.47504	5068.51924	5176.76361	5359.66911	5582.00876	5926.81529	6324.93879	6515.05758	6456.2219	6578.2473	6844.49564	7026.19387	7249.27876	7529.39207
Haiti	1378.69205	1372.37008	1367.56726	1377.79477	1344.44592	1390.75778	1442.9769	1507.28907	1526.16951	1561.38741	1471.64865	1562.27887	1614.0259	1686.17153	1741.18434
Honduras	2638.27229	2701.98036	2775.91144	2888.18379	3078.01306	3291.9321	3535.36019	3770.76575	3923.59702	3779.31897	3890.85141	4046.07625	4213.02445	4323.24447	4457.44958
Hungary	11876.0812	13241.9966	14549.5862	15467.2397	16251.3808	17081.7743	18300.3257	19026.8397	20678.6799	20648.0551	21555.8591	22841.2103	23094.4733	24463.1995	25524.7176
Iceland	29453.4266	31534.1457	32219.7243	32338.1825	35332.6444	36965.1403	38718.0142	40780.0958	42721.1629	41195.9597	38535.3271	39621.9357	40696.0378	42821.285	44546.0104
India	1977.64502	2083.82455	2159.35976	2336.47308	2549.26589	2830.40507	3138.63382	3484.88468	3637.64303	3920.00614	4315.59602	4635.87914	4916.48579	5250.51236	5672.92697
Indonesia	4601.84934	4810.75564	5033.94913	5305.68333	5647.24128	6076.57789	6517.94909	7019.74893	7486.01947	7787.12362	8262.89927	8837.82012	9421.58695	9979.51729	10537.66
Iraq	9651.6901	9813.44306	9020.76944	5989.83685	9239.30973	9701.2381	10740.8354	10905.912	11736.7382	11905.1964	12460.338	13261.6015	14895.392	15754.3998	15631.3549
Ireland	30173.2048	32572.6593	35210.8575	36235.3769	38683.0172	40438.1051	44211.1245	46751.5953	44280.6915	41613.3442	43298.6941	45147.3762	46374.2395	48067.1207	50994.3061
Italy	27022.8616	27955.8777	28641.5581	29079.3072	29457.891	30051.7733	32336.1613	33990.6178	35402.9169	34507.753	35042.1954	36347.3425	36237.1104	36131.1321	36070.8056
Japan	26838.8686	27495.6852	28160.1076	28921.5969	30361.815	31663.4531	33098.91	34502.2349	34798.7659	33192.6798	35000.3212	35774.6967	37191.3859	38974.0795	39179.1556
Jordan	5734.63912	6066.93109	6400.53921	6662.11216	7245.38628	7835.0884	8405.60117	8944.48893	9332.54246	9436.67702	9281.14721	9214.20662	9129.38978	9062.04052	9082.96015
Kazakhstan	7887.89298	9172.36918	10225.4459	11360.9933	12705.4339	14259.0187	16098.5109	17793.1479	18513.9254	18387.0637	19690.0339	21276.934	22391.3182	23773.4356	24847.8588
Kenya	1690.01225	1745.52162	1734.12347	1771.66443	1861.79949	1980.2604	2114.33578	2256.34903	2243.36907	2271.96872	2425.92444	2556.96287	2650.53888	2776.59849	2900.3707
Korea, Rep.	18083.0841	19184.3861	20775.1051	21374.4968	22947.2232	24196.4239	25827.7946	27822.8601	28655.9835	28320.3191	30376.8718	31228.5107	32097.164	32615.7726	33587.5834
Kuwait	55420.7227	55510.3558	57119.7459	67552.4274	75528.2235	83224.5749	88328.0161	91268.6072	90011.7822	79296.8647	73682.8684	77459.5383	79047.7639	76667.7063	74617.692
Kyrgyz Republic	1644.31198	1754.55434	1764.90516	1906.55626	2071.41749	2110.37794	2218.72793	2448.8992	2681.12219	2746.10266	2733.72934	2920.60321	2922.70287	3229.34935	3351.671
Laos	1969.7017	2096.90799	2221.18641	2367.44581	2548.39891	2773.57108	3054.58178	3317.14745	3585.16718	3820.36145	4133.44187	4495.15215	4882.41856	5293.96336	5727.01149
Latvia	8018.05037	9042.66783	10070.0025	11025.8348	12218.728	13847.6341	15754.6178	18126.1511	19432.2233	16868.8167	17575.7297	19773.3837	21252.7185	22676.3802	23808.0149
Libya	17375.6465	17186.1639	17010.8136	19299.5165	20392.4762	23189.8272	25071.9443	26966.4962	27843.1256	27523.8175	29030.8434	11192.7906	25416.0844	22322.3844	17246.8263
Lithuania	8456.32163	9459.49224	10494.3486	12066.8249	13036.0857	14526.1339	16486.7015	19092.2489	20744.0666	18142.6529	20110.339	22854.3322	24658.0075	26660.5599	28174.3635
Luxembourg	55340.0973	55941.3814	58771.5093	60035.196	64074.5052	68220.0645	77961.4748	83967.2605	86693.8951	82263.4362	85696.9959	92005.0168	91622.1774	95590.5387	101640.053
Macedonia	6126.10328	6033.87185	6305.38804	6502.20034	7082.62525	7759.72896	8585.89982	9241.27358	10417.6684	10912.2367	11284.8092	11611.852	11841.0126	12655.5366	13370.0206
Malawi	686.382576	648.864813	652.298793	684.854369	721.969679	748.095876	783.901668	855.785073	910.917399	964.314938	1012.06746	1051.186	1058.91226	1099.20059	1148.63708
Malaysia	12927.844	13003.036	13626.9555	14411.4577	15507.3157	16540.9016	17667.8683	18931.3157	19873.1709	19367.891	20680.2968	21818.8757	23006.9255	24033.9713	25487.6094
Malta	19422.7141	19637.6142	20561.6838	20936.1531	21408.6876	22232.5754	23226.9614	24889.0551	26193.0684	26134.9246	27836.0615	28618.5026	29436.1646	31063.8631	33229.479
Mauritania	2180.64424	2208.80505	2192.80384	2302.99496	2431.84142	2658.43644	3166.1929	3249.22034	3255.4976	3154.62076	3249.87693	3371.99458	3526.34393	3689.8449	3850.73463
Mauritius	8780.06269	9138.7755	9409.61027	9876.46913	10664.0428	11078.0272	12335.6355	13328.3409	14270.1694	14815.808	15616.0068	16561.771	17408.1887	18243.5128	19231.4742
Mexico	10799.0583	10878.9012	10901.1483	10954.5285	11506.7825	12369.7598	13437.4812	13999.9696	14551.0453	14172.4904	14858.5386	16049.3642	16658.0822	16848.0395	17481.9164
Mongolia	3689.7035	3849.34789	4053.41888	4377.92328	4921.36695	5384.32307	5950.24916	6647.15376	7278.37553	7131.64349	7552.66559	8881.48475	9969.14022	11093.8501	11955.1258
Morocco	3553.99425	3854.18426	3987.26647	4257.96349	4530.82369	4773.98407	5232.00912	5496.64313	5866.56422	6086.34016	6312.91543	6688.40261	6916.43502	7239.87311	7442.41616
Mozambique	445.150264	498.826565	535.164447	564.308239	606.77138	661.048723	726.789753	778.387355	823.786448	857.350003	899.198728	954.799116	1012.43719	1070.66357	1137.53029
Myanmar	1035.52412	1165.80125	1311.63469	1507.4936	1742.63226	2025.54018	2343.18362	2676.19066	2989.78489	3308.84637	3645.93644	3898.41463	4225.11935	4613.33978	5024.92436
Nepal	1220.42487	1285.36334	1285.14637	1341.49889	1422.47351	1499.72246	1579.30924	1659.11379	1777.23357	1853.33836	1945.80668	2031.08746	2142.09849	2239.40328	2387.29053
Netherlands	31591.9286	32864.2342	33991.0593	33701.113	35428.3943	37265.3451	40602.6534	43471.638	45843.8922	44037.3641	44542.8365	46066.6524	46707.2697	48666.3179	48606.2536
Oman	34848.6796	36805.6669	36334.008	35298.6875	35843.8805	36914.2264	38979.0675	40546.0496	43170.7634	44173.2962	44418.7704	42121.4319	43822.8158	43386.6456	42522.4173
Pakistan	2770.1665	2826.65388	2900.06823	3037.22284	3282.31589	3573.5251	3831.57782	4040.34594	4104.90738	4166.50804	4196.95581	4309.76371	4447.90271	4619.74454	4820.78329
Paraguay	4822.97879	4797.71931	4780.15795	4996.03859	5251.9901	5448.98023	5799.01883	6188.42445	6621.21916	6322.53506	7142.05704	7504.65364	7447.10818	8514.08188	8955.87105
Peru	5202.23309	5283.02904	5584.34315	5858.86295	6240.73154	6762.77266	7404.29524	8148.92185	8956.51529	9010.32551	9755.14915	10449.0933	11145.5119	11828.8068	12164.9573
Philippines	3348.15245	3449.52783	3554.91174	3729.01135	4008.67864	4255.15986	4535.14092	4881.39653	5100.53576	5115.48178	5483.62094	5707.20484	6099.12125	6526.65018	6937.85012
Poland	10651.2115	11111.2177	11781.0564	12256.3036	13345.8796	13895.9235	15144.147	16795.0668	18310.4432	19242.9888	21068.8512	22850.6388	23833.2097	24719.2475	25602.4174
Portugal	18883.9115	19556.8897	20367.6644	20839.4476	21483.3193	22739.5897	24658.5555	25701.5024	26631.564	26464.3755	27334.8116	26780.2149	26454.1026	27899.5095	28746.6531
Qatar	85860.6114	87599.2964	91083.7915	90348.9937	100426.546	97767.1903	108831.252	111959.862	115012.45	113312.852	122609.411	129349.916	127160.209	126913.035	127318.901
Romania	5877.07572	6578.85817	7179.1424	7820.31372	9134.35815	9723.54829	11689.1018	13790.2759	16726.7324	16489.7816	17027.1418	17997.8841	18983.2731	19859.4473	20609.5835
Russian Federation	6825.41139	7367.60906	8029.12265	9253.57743	10231.4264	11822.3709	14916.1853	16648.5869	20163.5876	19386.5844	20497.9341	24310.044	25784.5672	26240.2745	25797.4985
Saudi Arabia	34139.6579	33621.6979	32262.6606	35550.2772	38293.2354	40547.1345	41782.5441	42520.355	44841.9293	43055.8107	44502.4193	48524.6325	50573.3906	51264.8661	52628.2521
Serbia	5725.24945	6142.88357	6800.89225	7197.35048	8067.3431	8707.03936	9611.43407	10474.3896	11921.813	11827.6081	12087.101	12967.9186	13107.9827	13760.0521	13771.3843
Singapore	40983.9929	40413.8561	42374.0015	45806.3399	50918.8225	55180.901	60007.9737	64475.362	63447.4817	61655.7504	70657.035	75113.2045	77690.7894	81647.586	85227.0673
Slovak Republic	11354.8334	12381.6576	13294.4946	14138.7794	15193.6184	16616.1345	18867.0916	21161.4862	23691.6439	23055.076	24986.6128	25835.0048	26647.422	27897.5986	28927.6688
Slovenia	18047.4963	18971.0689	20305.0222	21132.1782	22785.0201	23945.2553	25766.539	27600.8691	29624.1902	27471.048	27766.4204	28804.7015	28900.878	29796.812	30854.0994
South Africa	7560.85812	7832.22656	8131.73836	8426.92361	8940.67199	9601.27531	10335.6374	11062.3745	11518.1045	11301.8198	11647.331	12118.7379	12440.2631	12769.9952	13051.8283
Spain	21530.4747	22929.8622	24363.0149	25054.2608	26189.4555	27702.4643	30819.2424	32591.41	33463.6541	32385.2063	31954.2428	32068.2709	31988.2539	32603.9058	33709.6492
Sri Lanka	4392.6755	4392.68327	4601.36533	4931.5367	5299.68395	5766.39525	6351.95736	6914.78617	7419.35903	7690.42692	8357.02991	9193.35951	10163.8601	10595.7157	11219.5533
Suriname	7713.11421	8155.70907	8542.14662	9136.10034	10146.1336	10834.5922	11473.2528	12249.5395	12869.8982	13218.0631	13924.3907	14887.9368	15410.9965	15956.949	16124.6911
Sweden	29275.838	29658.6483	30587.7625	31470.6074	33540.0195	33967.1875	37423.1569	40572.7571	41853.6962	39645.656	41627.9737	43755.0604	44724.9743	45673.1706	46524.1809
Switzerland	35748.877	36808.6394	37718.3041	37710.7989	39184.0188	40572.2632	45112.2787	49737.761	52584.7349	51759.7527	53119.3865	56183.8326	57849.584	60108.5163	61902.1624
Syrian Arab Republic															
Tajikistan	935.197554	1035.59496	1143.26891	1268.90912	1408.9645	1519.74066	1641.03465	1777.56358	1913.51971	1957.63975	2063.73041	2211.75382	2367.18537	2525.68553	2682.58697
Thailand	7283.51129	7635.093	8160.93274	8855.49468	9604.71048	10262.1089	11035.6146	11878.0391	12255.212	12201.3624	13213.7477	13535.1333	14714.4502	15286.5194	15651.1806
Trinidad and Tobago	14524.0912	15420.8556	16828.1094	19547.2767	21572.5135	23532.4893	27328.2929	29252.1188	30693.869	29429.3475	30628.5418	31012.7164	31830.518	32500.4938	32848.1961
Tunisia	6003.31201	6316.87369	6446.87417	6832.44028	7400.07207	7838.07403	8424.4548	9137.58345	9609.70756	9868.80143	10225.2522	10120.6772	10595.8753	10947.9966	11342.424
Turkey	9582.26042	9222.91153	9330.14446	9603.73921	10864.4486	11887.875	13621.9372	14843.4719	16048.9202	15483.2368	17442.8599	19660.8895	20639.8587	22310.5364	24029.7435
Ukraine	3802.54024	4289.92123	4628.03729	5206.10663	6042.18478	6452.09619	7184.20329	8005.69176	8395.81254	7239.62423	7666.21958	8281.86713	8475.47175	8629.67699	8666.8156
United Kingdom	26245.8562	27462.6125	28806.8888	30043.9972	31732.9523	32436.8796	34500.7081	35289.398	36257.5124	34589.5666	35875.4563	36607.9811	37705.5942	39308.1346	40707.201
United States	36449.8551	37273.6181	38166.0378	39677.1983	41921.8098	44307.9206	46437.0671	48061.5377	48401.4273	47001.5553	48375.4069	49793.7135	51450.9591	52782.0865	54696.7262
Uruguay	10204.9052	10018.5645	9383.94447	9654.33669	10421.0357	11553.5155	12376.3366	13501.6028	14705.5517	15391.197	16736.851	17904.7458	18817.742	19942.5041	20887.1618
Venezuela	11424.2045	11858.3339	10775.3484	9957.68584	11891.6247	13309.6976	14821.148	16276.9256	17192.9155	16507.3414	16210.29	16981.3355	18004.4653	18281.193	17639.8858

GDP per capita (constant USD)

GDP per capita - constant dollars	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014
Afghanistan			1063.63557	1099.19451	1062.24936	1136.12321	1161.12489	1284.77521	1298.14316	1531.17399	1614.255	1660.73986	1839.27358	1848.70003	1838.96024
Albania	5668.57478	6176.37068	6457.05002	6855.44888	7277.21491	7733.00693	8204.58825	8754.56951	9153.78821	9524.6493	9927.18184	10207.7647	10369.8234	10492.8063	10701.1208
Argentina	14899.87	14085.5752	12412.606	13361.4	14410.1505	15518.6785	8204.58825	17900.7063	18436.8625	17168.3789	18712.0631	19629.3518	19224.8744	19482.1903	18797.5479
Australia	35377.7296	35578.6421	36553.9646	37183.6846	38225.6937	38928.0408	8204.58825	40680.1896	41331.528	41266.8664	41464.0401	41894.1731	42754.4563	43118.0861	43547.1975
Austria	38844.4047	39186.337	39638.0269	39816.7741	40652.8107	41282.88	8204.58825	43939.4253	44441.7885	42656.8542	43336.1979	44452.7327	44551.6176	44301.104	44320.502
Bangladesh	1641.95877	1692.82912	1725.632	1775.97815	1838.76198	1929.93874	2031.27129	2148.47399	2252.16873	2339.86577	2442.72889	2570.85015	2706.58675	2835.76662	2973.04156
Belarus	7562.884	7960.98606	8416.04257	9072.06619	10180.003	11213.2496	12410.3298	13539.6028	14972.2695	15035.6996	16235.1715	17166.6956	17479.9294	17656.1193	17944.2098
Belgium	37188.6437	37361.7184	37856.8647	37990.7133	39201.5272	39802.9723	40532.273	41623.4417	41619.3401	40355.5731	41085.9189	41248.7253	41046.4812	40928.1366	41360.3956
Bolivia	4412.25557	4403.71695	4431.30609	4470.30911	4575.17287	4694.91661	4836.43253	4972.49627	5191.1319	5278.03827	5407.47022	5598.50844	5792.93305	6090.69557	6324.82726
Brazil	11370.9709	11368.4664	11559.5606	11541.975	12058.2077	12298.5879	12643.565	13268.4139	13802.818	13649.8658	14537.5672	14973.0985	15119.9121	15432.8936	15374.2615
Bulgaria	8833.44657	9350.78605	10123.3705	10730.0118	11507.0544	12419.9288	13374.9177	14463.1833	15442.1517	14984.6064	15283.2915	15676.1505	15772.0966	15997.3568	16302.3206
Burundi	754.09628	751.388913	763.177201	730.902951	741.766252	724.160012	738.09249	747.676475	759.339932	760.061723	763.83193	771.509424	778.735484	790.714518	803.172837
Cambodia	1384.95602	1458.07818	1525.43801	1627.06587	1766.4178	1969.29118	2148.33269	2332.72685	2452.27816	2417.87628	2522.92682	2658.70925	2807.00706	2964.19717	3124.31929
Canada	37431.917	37712.1282	38500.3171	38805.6711	39604.3549	40471.2605	41203.3504	41647.3878	41611.2508	39924.1959	40699.3551	41565.2712	41794.5389	42339.3789	43079.1425
Chad	993.182982	1067.94776	1115.0375	1231.1151	1584.67315	1793.40694	1743.61785	1741.48706	1736.91917	1752.11993	1925.19512	1863.84561	1962.87773	2007.07732	2076.65001
Chile	14315.4261	14613.8039	14895.5402	15332.297	16258.3889	17007.5798	17890.5997	18572.5684	19031.6164	18547.4615	19442.0503	20437.7045	21330.2399	21998.3071	22195.2744
China	3700.74365	3980.3645	4314.79134	4718.32635	5164.64109	5719.45537	6411.04254	7285.27441	7947.78795	8651.7259	9525.81848	10384.3666	11145.7516	11951.248	12758.6478
Colombia	8308.22295	8327.07076	8415.75912	8625.24657	8963.59533	9263.73017	9760.13493	10306.9475	10547.2604	10599.9626	10900.5053	11496.4777	11840.2404	12296.2955	12715.9674
Costa Rica	9878.28869	10040.5741	10201.5877	10473.9163	10768.7414	11025.4768	11656.2143	12433.2016	12834.9362	12543.9779	12999.9922	13397.2305	13878.0474	14035.288	14372.4008
Cyprus	30085.7741	30834.9098	31519.7241	31909.9326	32924.9335	33662.8529	34599.0245	35502.956	35960.3527	34387.3484	33941.138	33192.3798	31690.7028	29879.5672	29786.1744
Czech Republic	21193.9017	21892.4825	22297.2247	23107.2039	24233.597	25781.2047	27473.6271	28844.0672	29373.1092	27803.5872	28352.9494	28797.418	28527.1387	28379.7461	29119.6166
Denmark	42337.7144	42533.5393	42595.5872	42645.5831	43670.4453	44567.9313	46159.9137	46373.5167	45865.796	43382.6255	43998.4367	44403.3941	44336.8125	44564.4522	45057.0742
Dominican Republic	8200.37843	8272.12725	8511.69071	8270.29353	8356.82634	9011.51215	9697.82318	10271.2213	10455.4832	10412.601	11132.5527	11333.5471	11494.9497	11907.2049	12663.0422
Ecuador	7387.61588	7550.25728	7727.71735	7808.1922	8311.70135	8607.76541	8837.38069	8879.63685	9285.86441	9183.55256	9352.34424	9926.90344	10322.1789	10665.4626	10901.4186
Egypt	7388.35641	7507.68726	7541.32423	7635.66061	7800.34892	8001.51654	8398.87454	8838.5248	9305.41495	9561.84757	9857.46828	9823.82329	9822.42018	9814.21213	9879.79936
El Salvador	5656.24281	5668.82893	5725.15563	5784.18461	5807.27363	5936.61904	6166.29638	6253.15152	6358.13298	6198.3045	6300.77539	6511.44373	6663.81162	6789.86	6890.72322
Fiji	6673.84739	6782.2844	6986.67796	7048.44794	7406.36184	7426.77876	7513.21711	7383.26407	7384.08606	7208.00511	7352.08836	7488.82938	7537.92621	7839.87478	8222.25378
Finland	34887.1788	35706.1533	36218.2402	36852.4439	38188.2511	39115.7648	40546.0807	42467.261	42574.6411	38867.7994	39848.1345	40683.5276	39912.9414	39428.3121	39017.5372
France	34880.8818	35304.7307	35440.9219	35479.0104	36200.0763	36505.8487	37113.1834	37755.2945	37618.2073	36324.3615	36855.8447	37440.6415	37327.9444	37350.2783	37523.7276
Gabon	17782.6982	17714.376	17231.3746	17171.0798	16832.482	16803.5467	15860.3756	16312.5763	15288.1449	14822.3906	15355.7846	15893.5477	16159.7218	16503.0684	16678.6381
Germany	36764.5629	37325.0525	37262.3513	36977.346	37418.0925	37703.9329	39143.1662	40473.5274	40989.4431	38784.4525	40428.721	42692.5198	42822.0994	42914.4761	43560.6192
Ghana	2259.06314	2291.0163	2333.68198	2392.32599	2461.32227	2539.32925	2632.02783	2675.44354	2845.23455	2907.54693	3059.38363	3404.45957	3632.44568	3807.34265	3868.60089
Greece	24839.0759	25731.2093	26642.769	28119.4074	29469.5266	29559.2814	31136.447	32073.9604	31881.7123	30430.4194	28726.0793	26141.3196	24364.2691	23746.0846	24081.6305
Guatemala	6070.72006	6069.47751	6157.56589	6166.11241	6213.12986	6269.15558	6458.00089	6713.14644	6781.89964	6669.99987	6714.0636	6844.49564	6899.10874	7005.02693	7147.42923
Haiti	1739.39252	1692.83845	1661.40939	1641.10979	1558.53224	1561.96045	1572.30243	1599.8024	1588.67797	1613.08796	1502.03271	1562.27887	1584.83247	1629.35892	1652.8548
Honduras	3328.51059	3332.93207	3372.35724	3440.15436	3568.14842	3697.16985	3852.21373	4002.20517	4084.2987	3904.45952	3971.18299	4046.07625	4136.82206	4177.58027	4231.32507
Hungary	17951.7355	18683.9818	19585.7223	20397.8449	21466.2224	22452.8159	23353.8502	23491.7479	23734.2445	22202.157	22404.2392	22841.2103	22582.0728	23119.017	24161.4255
Iceland	34044.649	34914.5488	34794.7879	35369.0215	37890.6977	39679.0392	40703.0361	43427.8529	43334.9005	40377.8335	38978.0056	39621.9357	39931.6094	41259.796	41701.1373
India	2495.04663	2570.42789	2623.33028	2783.00436	2955.20482	3178.82872	3419.93111	3698.77749	3786.63268	4049.80511	4404.69701	4635.87914	4827.55966	5073.60549	5385.14181
Indonesia	5805.80871	5934.13705	6115.56787	6319.67042	6546.49432	6824.60631	7102.11454	7450.60216	7792.62993	8044.97033	8433.49736	8837.82012	9251.17554	9643.27483	10003.089
Iraq	12176.8147	12105.0247	10959.0157	7134.57483	10710.5551	10895.4632	11703.4733	11575.2874	12217.4485	12299.4005	12717.5975	13261.6015	14625.974	15223.5827	14838.3829
Ireland	38849.8608	40455.3012	42289.065	42903.6732	44940.9465	46613.5571	47879.0236	48937.4942	46062.6286	43487.479	44030.4141	45147.3762	44973.1753	45470.1585	48898.3287
Italy	36535.8188	37162.4233	37199.3524	37090.4052	37434.1001	37604.3606	38243.8063	38612.0117	37954.1607	35710.42	36201.1616	36347.3425	35227.6248	34219.8328	33945.8439
Japan	33871.8582	33927.6436	33888.7835	34333.1337	35078.262	35658.1487	36141.5852	36697.2409	36278.3695	34317.6708	35749.7567	35774.6967	36367.5971	37148.6027	37337.3174
Jordan	7234.96475	7483.64773	7775.79013	7935.33095	8399.12406	8799.58996	9158.94577	9493.4775	9714.78234	9749.14363	9472.76833	9214.20662	8964.26343	8756.71084	8622.18547
Kazakhstan	9951.56391	11314.2508	12422.5348	13532.2312	14728.6164	16014.3079	17541.3258	18885.2432	19272.214	18995.8949	20096.5598	21276.934	21986.3189	22972.431	23587.3375
Kenya	2132.1619	2153.1263	2106.72565	2110.25322	2158.26793	2224.031	2303.83126	2394.83764	2335.25241	2347.19799	2476.01074	2556.96287	2602.59769	2683.04583	2753.23613
Korea	20756.7799	21530.2634	22997.1871	23549.3665	24605.5349	25516.8242	26697.0326	28013.7044	28588.3721	28642.8379	30352.1048	31228.5107	31776.897	32548.7155	33425.6896
Kuwait	69920.1757	68472.8311	69392.7717	80462.6003	87555.1552	93469.5431	96244.3367	96870.4278	93698.4616	81922.5371	75204.1451	77459.5383	77618.0003	74084.5214	70832.3684
Kyrgyz Republic	2074.50529	2164.2683	2144.12125	2270.92468	2401.265	2370.16605	2417.57947	2599.20602	2790.9349	2837.03142	2790.17066	2920.60321	2869.83896	3120.54204	3181.64216
Laos	2485.02514	2586.5665	2698.4413	2819.89639	2954.19979	3114.99844	3328.34598	3520.745	3732.00753	3946.861	4218.78204	4495.15215	4794.10861	5115.59248	5436.48264
Latvia	11175.1533	12051.8621	13058.753	14297.1989	15658.9073	17522.2677	19786.2214	21939.0744	21384.3135	18609.3328	18251.9533	19773.3837	20827.9116	21563.7214	22172.2535
Libya	21921.552	21199.3831	20665.8396	22987.9123	23639.7247	26044.5014	27318.9953	28621.6269	28983.5172	28435.1842	29630.2221	11192.7906	24956.3751	21570.2705	16371.9022
Lithuania	12189.9622	13092.7298	14090.5578	15702.532	16920.0082	18526.7327	20219.1157	22729.2136	23567.7027	20300.5037	21070.6343	22854.3322	24049.354	25143.9151	26258.2101
Luxembourg	81689.8164	82766.989	85032.7119	85374.3398	87209.8194	88610.2899	91724.1825	97864.1951	94900.3467	89098.7342	91743.2939	92005.0168	89505.159	90656.3804	93655.3342
Macedonia	8620.6492	8323.41468	8422.67619	8590.98702	8976.73703	9386.02697	9854.44775	10480.6243	11043.8277	10995.1018	11355.3675	11611.852	11549.6681	11877.7737	12298.4902
Malawi	865.957498	800.384183	792.454877	815.739204	836.934384	840.186686	854.158164	908.310849	948.22652	996.245269	1032.96288	1051.186	1039.75936	1062.16494	1090.36721
Malaysia	16310.0928	16039.434	16554.9093	17165.6801	17976.6631	18577.0912	19251.3355	20093.2687	20687.1311	20009.1993	21107.2679	21818.8757	22590.7915	23224.1884	24194.6339
Malta	24623.9537	24588.3743	25133.7269	25604.1092	25545.4928	26343.5854	26727.7782	27696.5057	28437.7379	27529.193	28364.7993	28618.5026	29131.7309	30050.1311	31846.1895
Mauritania	2751.15555	2724.59315	2663.96032	2743.12811	2819.08197	2985.6907	3449.96016	3448.64871	3388.83543	3259.07635	3316.97478	3371.99458	3462.56176	3565.522	3655.38851
Mauritius	11077.1476	11272.8125	11431.4048	11763.9946	12362.1592	12441.7355	13441.206	14146.3984	14854.6434	15306.388	15938.4192	16561.771	17093.3209	17628.8294	18255.8697
Mexico	15682.8122	15415.2002	15218.7934	15251.1406	15648.3423	15791.537	16258.54	16371.7515	16293.0313	15185.5374	15715.9721	16049.3642	16394.6307	16385.0596	16622.597
Mongolia	4655.0226	4748.2266	4924.35613	5214.603	5705.03352	6047.13473	6483.535	7055.13811	7576.48136	7367.78599	7708.59999	8881.48475	9788.82502	10720.0621	11348.6473
Morocco	4483.80841	4754.19233	4843.98989	5071.7173	5252.3011	5361.66283	5700.92333	5834.01224	6106.84544	6287.87064	6443.25361	6688.40261	6791.33513	6995.93819	7078.88149
Mozambique	561.612753	615.309822	650.152478	672.155096	703.392187	742.424004	791.927644	826.162668	857.526882	885.738518	917.763832	954.799116	994.124894	1034.58942	1079.82387
Myanmar	1306.44324	1438.0328	1593.45889	1795.5958	2020.1248	2274.88474	2553.18939	2840.44801	3112.23974	3418.40866	3721.21144	3898.41463	4148.6982	4457.90133	4770.0121
Nepal	1539.71867	1585.51437	1561.27915	1597.87728	1648.98475	1684.33871	1720.85344	1760.94571	1850.02504	1914.70597	1985.98034	2031.08746	2103.35364	2163.95049	2266.1843
Netherlands	41721.694	42287.5619	42062.0473	41982.9214	42686.8868	43507.3004	44965.885	46527.6184	47134.303	45125.8059	45524.6621	46066.6524	45411.3523	45191.4862	45668.4415
Oman	43965.9695	45400.3253	44140.9094	42044.7391	41551.5734	41458.3779	42472.5321	43034.6567	44938.9404	45635.9594	45335.8525	42121.4319	43030.1778	41924.8081	40365.2733
Pakistan	3494.91163	3486.71866	3523.19097	3617.67677	3804.98394	4013.42703	4174.97961	4288.33146	4273.03512	4304.46917	4283.60731	4309.76371	4367.452	4464.09029	4576.22702
Paraguay	6084.79118	5918.05654	5807.24589	5950.84842	6088.3043	6119.75121	6318.75079	6568.25323	6892.40935	6531.88641	7289.51391	7504.65364	7312.40983	8227.21471	8501.54354
Peru	6563.26793	6516.69316	6784.22223	6978.57006	7234.49054	7595.27185	8067.89868	8649.08066	9323.35394	9308.67479	9956.55664	10449.0933	10943.9193	11430.2558	11547.8342
Philippines	4224.11323	4255.04274	4318.73733	4441.67532	4647.01093	4778.97122	4941.59893	5181.00347	5309.44219	5284.86526	5596.83729	5707.20484	5988.80439	6306.74607	6585.89595
Poland	14732.482	14920.4597	15232.1301	15785.4209	16605.8184	17193.5237	18267.588	19563.2976	20391.9002	20952.8017	21770.6444	22850.6388	23218.1113	23555.4962	24347.0737
Portugal	25999.4907	26318.4782	26375.9645	26031.6494	26439.9332	26593.2856	26957.6364	27575.2368	27590.3749	26743.198	27238.4607	26780.2149	25805.8498	25654.6143	26023.6978
Qatar	108323.904	108055.006	110654.497	107615.896	116418.226	109802.359	118585.158	118831.655	119723.101	117064.86	125140.838	129349.916	125302.08	122636.922	120860.068
Romania	10470.966	11211.8699	12010.9942	12766.2619	13912.387	14582.5743	15850.9059	17190.9559	18923.6336	17954.1312	17553.2833	17997.8841	18302.0263	19018.8708	19677.5203
Russian Federation	14050.8513	14829.083	15604.1495	16818.7426	18098.3671	19325.9357	20970.1899	22798.9708	24005.9967	22121.8525	23107.7852	24310.044	25156.4209	25551.09	25284.5862
Saudi Arabia	43071.4498	41472.8533	39194.7724	42344.4109	44390.9576	45538.498	45527.2678	45130.1396	46678.5535	44481.4718	45421.2285	48524.6325	49658.6527	49537.5857	49958.4433
Serbia	7984.83625	8397.92383	9003.79519	9421.37157	10297.6766	10900.9124	11480.5847	12206.0391	12915.9657	12563.7871	12688.1243	12967.9186	12898.7049	13294.9603	13112.909
Singapore	51706.4348	49851.0793	51478.6851	54560.5445	59027.0126	61973.6852	65386.1355	68432.6855	66046.1474	63697.2914	72115.8395	75113.2045	76285.5699	78896.6127	80903.5347
Slovak Republic	15605.1961	16152.2711	16888.9432	17815.8298	18756.554	20020.8376	21712.1784	24049.9834	25382.1684	23973.8414	25159.0775	25835.0048	26218.4716	26580.7179	27285.2847
Slovenia	22723.327	23356.7055	24222.7058	24896.1191	25962.9085	26955.4759	28389.3382	30190.7236	31137.7764	28451.5455	28678.3726	28804.7015	27976.9163	27622.6855	28417.6564
South Africa	9538.9685	9661.16536	9878.96313	10037.4215	10364.363	10783.195	11261.9598	11741.3531	11989.8601	11676.0449	11887.805	12118.7379	12215.2519	12339.7324	12389.7147
Spain	29967.1314	30950.5732	31395.276	31815.4213	32261.4445	32901.9877	33700.8521	34329.647	34163.9464	32652.5122	32507.094	32068.2709	31109.1875	30678.9173	31195.4052
Sri Lanka	5541.90973	5418.43869	5590.03702	5874.01936	6143.59281	6476.2401	6921.24594	7339.19707	7723.23923	7945.07182	8529.57144	9193.35951	9980.02295	10238.7115	10650.3902
Suriname	9731.05862	10060.1857	10377.5537	10882.1314	11761.7793	12168.3335	12501.533	13001.3832	13397.0202	13655.7387	14211.8775	14887.9368	15132.2526	15419.3074	15306.6924
Sweden	36854.8688	37330.705	37980.9801	38742.6803	40257.9235	41227.3087	42918.0103	44051.4676	43466.1418	40862.9701	42942.5625	43755.0604	43308.2145	43475.8013	44167.6319
Switzerland	50775.9763	51117.8874	50815.1532	50459.5029	51505.0924	52770.4689	54531.9937	56269.1565	56755.8381	54805.5793	55866.3051	56183.8326	56149.6709	56535.74	57218.0279
Syrian Arab Republic															
Tajikistan	1179.86872	1277.42144	1388.91722	1511.41464	1633.3246	1706.82116	1788.11094	1886.66563	1991.89316	2022.46098	2106.33876	2211.75382	2324.36929	2440.58695	2546.50048
Thailand	9189.06078	9417.99825	9914.43035	10547.8982	11134.1413	11525.3774	12024.6718	12607.0811	12757.1578	12605.3731	13486.5624	13535.1333	14448.305	14771.4668	14857.2029
Trinidad and Tobago	18323.9583	19021.8496	20443.8786	23283.0229	25007.6684	26429.3453	29777.567	31047.5348	31951.0206	30403.81	31260.907	31012.7164	31254.7887	31405.4463	31181.8212
Tunisia	7573.92921	7791.95556	7832.08084	8138.21105	8578.44165	8802.94312	9179.48915	9698.42364	10003.2995	10195.5765	10436.3656	10120.6772	10404.2241	10579.1229	10767.0277
Turkey	13862.0504	12842.3579	13468.499	14020.9361	15161.6203	16309.6833	17250.7717	17901.4779	17836.8052	16783.4415	17959.2591	19660.8895	20282.0284	21650.7568	22401.8804
Ukraine	4797.38028	5291.68023	5622.43985	6201.06328	7004.32768	7246.35103	7828.08118	8497.0595	8739.68608	7479.34217	7824.49845	8281.86713	8322.17303	8338.91505	8243.47352
United Kingdom	33266.1164	33981.3776	34669.5182	35656.178	36292.182	37159.799	37793.6185	38384.252	37903.3819	36042.4242	36366.9832	36607.9811	36892.8503	37398.7972	38251.7925
United States	45986.0527	45977.55	46366.578	47260.0419	48597.3374	49762.2379	50598.9484	51011.425	50383.8406	48557.8676	49374.1789	49793.7135	50520.3483	51003.686	51921.9846
Uruguay	12874.7648	12358.045	11400.2243	11499.4096	12080.4563	12975.7565	13485.5549	14330.2947	15307.858	15900.8293	17082.4047	17904.7458	18477.3791	19270.5761	19827.565
Venezuela	14413.0633	14627.4273	13090.5921	11860.7329	13785.2182	14948.1251	16149.4803	17275.9594	17897.0985	17053.9313	16544.9721	16981.3355	17678.8125	17665.24	16745.022

Income group

Income group	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014
Afghanistan	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
Albania	2	2	2	2	2	2	2	2	2	3	3	2	3	3	3
Argentina	3	3	3	3	3	3	2	3	3	3	3	3	3	3	4
Australia	4	4	4	4	4	4	2	4	4	4	4	4	4	4	4
Austria	4	4	4	4	4	4	2	4	4	4	4	4	4	4	4
Bangladesh	1	1	1	1	1	1	1	1	1	1	1	1	1	1	2
Belarus	2	2	2	2	2	2	2	3	3	3	3	3	3	3	3
Belgium	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4
Bolivia	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2
Brazil	3	3	2	2	2	2	3	3	3	3	3	3	3	3	3
Bulgaria	2	2	2	2	2	2	3	3	3	3	3	3	3	3	3
Burundi	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
Cambodia	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
Canada	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4
Chad	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
Chile	3	3	3	3	3	3	3	3	3	3	3	3	4	4	4
China	2	2	2	2	2	2	2	2	2	2	3	3	3	3	3
Colombia	2	2	2	2	2	2	2	2	3	3	3	3	3	3	3
Costa Rica	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3
Cyprus	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4
Czech Republic	3	3	3	3	3	3	4	4	4	4	4	4	4	4	4
Denmark	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4
Dominican Republic	2	2	2	2	2	2	2	2	3	3	3	3	3	3	3
Ecuador	2	2	2	2	2	2	2	2	2	2	3	3	3	3	3
Egypt	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2
El Salvador	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2
Fiji	2	2	2	2	2	2	2	3	3	3	2	2	3	3	3
Finland	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4
France	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4
Gabon	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3
Germany	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4
Ghana	1	1	1	1	1	1	1	1	1	1	2	2	2	2	2
Greece	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4
Guatemala	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2
Haiti	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
Honduras	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2
Hungary	3	3	3	3	3	3	3	4	4	4	4	4	3	3	4
Iceland	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4
India	1	1	1	1	1	1	1	2	2	2	2	2	2	2	2
Indonesia	1	1	1	2	2	2	2	2	2	2	2	2	2	2	2
Iraq	2	2	2	2	2	2	2	2	2	2	2	2	3	3	3
Ireland	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4
Italy	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4
Japan	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4
Jordan	2	2	2	2	2	2	2	2	2	2	3	3	3	3	3
Kazakhstan	2	2	2	2	2	2	3	3	3	3	3	3	3	3	3
Kenya	1	1	1	1	1	1	1	1	1	1	1	1	1	1	2
Korea	3	4	4	4	4	4	4	4	4	4	4	4	4	4	4
Kuwait	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4
Kyrgyz Republic	1	1	1	1	1	1	1	1	1	1	1	1	1	2	2
Laos	1	1	1	1	1	1	1	1	1	1	2	2	2	2	2
Latvia	2	3	3	3	3	3	3	3	3	4	3	3	4	4	4
Libya	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3
Lithuania	2	3	3	3	3	3	3	3	3	3	3	3	4	4	4
Luxembourg	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4
Macedonia	2	2	2	2	2	2	2	2	3	3	3	3	3	3	3
Malawi	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
Malaysia	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3
Malta	4	3	4	4	4	4	4	4	4	4	4	4	4	4	4
Mauritania	1	1	1	1	1	1	1	1	1	1	2	1	2	2	2
Mauritius	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3
Mexico	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3
Mongolia	1	1	1	1	1	1	1	2	2	2	2	2	2	2	3
Morocco	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2
Mozambique	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
Myanmar	1	1	1	1	1	1	1	1	1	1	1	1	1	1	2
Nepal	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
Netherlands	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4
Oman	3	3	3	3	3	3	3	4	4	4	4	4	4	4	4
Pakistan	1	1	1	1	1	1	1	1	2	2	2	2	2	2	2
Paraguay	2	2	2	2	2	2	2	2	2	2	2	2	2	2	3
Peru	2	2	2	2	2	2	2	2	3	3	3	3	3	3	3
Philippines	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2
Poland	3	3	3	3	3	3	3	3	3	4	4	4	4	4	4
Portugal	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4
Qatar	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4
Romania	2	2	2	2	2	3	3	3	3	3	3	3	3	3	3
Russian Federation	2	2	2	2	3	3	3	3	3	3	3	3	4	4	4
Saudi Arabia	3	3	3	3	4	4	4	4	4	4	4	4	4	4	4
Serbia							3	3	3	3	3	3	3	3	3
Singapore	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4
Slovak Republic	3	3	3	3	3	3	3	4	4	4	4	4	4	4	4
Slovenia	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4
South Africa	3	2	2	2	3	3	3	3	3	3	3	3	3	3	3
Spain	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4
Sri Lanka	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2
Suriname	2	2	2	2	2	2	2	3	3	3	3	3	3	3	3
Sweden	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4
Switzerland	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4
Syrian Arab Republic	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2
Tajikistan	1	1	1	1	1	1	1	1	1	1	1	1	1	1	2
Thailand	2	2	2	2	2	2	2	2	2	2	3	3	3	3	3
Trinidad and Tobago	3	3	3	3	3	3	4	4	4	4	4	4	4	4	4
Tunisia	2	2	2	2	2	2	2	2	2	2	3	3	3	3	3
Turkey	3	2	2	2	3	3	3	3	3	3	3	3	3	3	3
Ukraine	1	1	2	2	2	2	2	2	2	2	2	2	2	2	2
United Kingdom	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4
United States	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4
Uruguay	3	3	3	3	3	3	3	3	3	3	3	3	4	4	4
Venezuela	3	3	3	3	3	3	3	3	3	3	3	3	3	3	4

Inequality: GINI index

GINI Index	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014
Afghanistan															
Albania			31.7			30.6			30				29		
Argentina	51.1	53.3	53.8	50.7	48.3	47.7		46.3	44.5	43.9	43	42.3	41.2	41	41.4
Australia		33.5		33.5					35.4		34.7				
Austria				29.5	29.8	28.7		30.6	30.4	31.5	30.3	30.8	30.5	30.8	30.5
Bangladesh	33.4					33.2					32.1				
Belarus	31.2	30.6	30.3	28.8	26.5	27.6	28.3	29.6	27.8	27.7	28.6	27.2	26.5	26.6	27.2
Belgium				28.1	30.5	29.3	28.1	29.2	28.4	28.5	28.4	28.1	27.5	27.7	28.1
Bolivia	61.6	57.4	59.3		55	58.5	56.7	54.5	50.8	49.2		46.1	46.6	47.6	47.8
Brazil		58.4	58.1	57.6	56.5	56.3	55.6	54.9	54	53.7		52.9	52.6	52.8	51.5
Bulgaria							35.7	36.1	33.6	33.8	35.7	34.3	36	36.6	37.4
Burundi							33.4							38.6	
Cambodia															
Canada	33.3				33.7			33.8			33.6			34	
Chad				39.8								43.3			
Chile	52.8			51.5			48.2			49		47.6		47.3	
China									42.8				42.2		
Colombia	58.7	57.2	55.8	53.4	54.8	53.7			55.4	54.5	54.8	53.6	52.9	52.9	52.8
Costa Rica	47.4	51.6	51.9	49.3	48.3	47.5	49.4	49.3	48.7	50.6	48.2	48.7	48.6	49.3	48.6
Cyprus					30.1	30.3	31.1	31.1	31.7	32.1	31.5	32.6	34.3	37	35.6
Czech Republic					27.5	26.9	26.7	26	26.3	26.2	26.6	26.4	26.1	26.5	25.9
Denmark				25.6	24.9	25.2	25.9	26.2	25.2	26.7	27.2	27.3	27.8	28.5	28.4
Dominican Republic	52	50.4	50	52	52	49.9	51.8	48.6	47.8	48.5	46.9	47.4	45.6	47	44.1
Ecuador	56.4			53.4	53.9	53.1	52.2	53.3	49.7	48.4	48.7	45.9	46.1	46.9	45
Egypt					31.8				31.1		31.5		29.8		
El Salvador	51.5	51.4	51.9	50.4	47.8	48.5	45.7	45.2	46.9	45.8	43.5	42.3	41.8	43.4	41.6
Fiji			38.1						40.4					36.7	
Finland				27.7	27.9	27.6	28	28.3	27.8	27.5	27.7	27.6	27.1	27.2	26.8
France				31.4	30.6	29.8	29.7	32.4	33	32.7	33.7	33.3	33.1	32.5	32.3
Gabon						42.2									
Germany	28.8	30.3			30.4		31.3	31.3			30.2	30.5		31.1	
Ghana						42.8							42.4		
Greece				32.8	33.6	34.6	35.1	34	33.6	33.6	34.1	34.8	36.2	36.1	35.8
Guatemala	54.2						54.6								48.3
Haiti													41.1		
Honduras		55.2	55.7	58.1	58.1	59.5	57.5	55.8	55.5	51.3	53.1	56.2	56.1	52.6	50.4
Hungary					29.9	34.7	28.3	27.9	27.5	27	29.4	29.2	30.8	31.5	30.9
Iceland				26.8	28	29	30.2	29.5	31.8	28.7	26.2	26.8	26.8	25.4	27.8
India												35.1			
Indonesia														39.5	
Iraq							28.6						29.5		
Ireland				32.9	33.6	33.7	32.7	31.9	30.9	32.7	32.3	32.9	33.2	33.5	31.9
Italy				34.9	34.3	33.8	33.7	32.9	33.8	33.8	34.7	35.1	35.2	34.9	34.7
Japan									32.1						
Jordan			37				33.9		32.6		33.7				
Kazakhstan		36	34.9	33.8	32	39.9	30.3	30.1	28.5	28.2	28	28	28.1	27.1	27
Kenya						46.5									
Korea, Rep.							31.7		32.3		32		31.6		
Kuwait															
Kyrgyz Republic	31	30.2	30.3	28.7	34.8	32.6	37.4	33.9	31.5	29.9	30.1	27.8	27.4	28.8	26.8
Laos			32.6					35.4					36.4		
Latvia					36.4	39	35.6	37.5	37.2	35.9	35	35.8	35.2	35.5	35.1
Libya															
Lithuania					37	35.3	34.4	34.8	35.7	37.2	33.6	32.5	35.1	35.3	37.7
Luxembourg				30.2	30.2	30.8	30.9	31.1	32.6	31.2	30.5	32.1	34.3	32	31.2
Macedonia										42.8	40.2	40.1	38.5	36.9	35.6
Malawi					39.9						45.5				
Malaysia					46.1			46.1	45.5			43.9		41.3	
Malta							28	29.2	29	30.2	29	29.1	29.4	28.8	29
Mauritania	39				40.2				35.7						32.6
Mauritius							35.7						35.8		
Mexico	51.4		49		48.3	48.9	47.7		44.6		45.3		45.4		45.8
Mongolia			32.9					35.8			33.1	33.9	33.8		32
Morocco	40.6						40.7							39.5	
Mozambique			47						45.6						54
Myanmar															
Nepal				43.8							32.8				
Netherlands					29.8	29	30	29.6	29.3	27.9	27.8	27.7	27.6	28.1	28.6
Oman															
Pakistan		30.4			32.5	32.7		31.6			29.8	30.9		30.7	
Paraguay		54.6	57.3	54.9	52.3	51.4	53	53	50.7	49.1	51	52.3	47.6	47.9	50.7
Peru	49.4	51.5	53.8	53.5	50.3	50.8	50.5	50.4	47.8	47.3	45.7	44.9	44.7	44.1	43.4
Philippines															
Poland															
Portugal				38.7	38.9	38.5	38.1	36.7	36.6	34.9	35.8	36.3	36	36.2	35.6
Qatar															
Romania							39.6	37.5	36.4	35.6	35.5	35.9	36.5	36.9	36
Russian Federation	37.1	36.9	37.3	40	40.3	41.3	41	42.3	41.6	39.8	39.5	39.7	40.7	40.9	39.9
Saudi Arabia															
Serbia															
Singapore															
Slovak Republic					27.1	29.3	25.8	24.7	26	27.2	27.3	26.5	26.1	28.1	26.1
Slovenia					24.8	24.6	24.4	24.4	23.7	24.8	24.9	24.9	25.6	26.2	25.7
South Africa	57.8					64.8			63		63.4				63
Spain				31.8	33.3	32.4	33.5	34.1	34.2	34.9	35.2	35.7	35.4	36.2	36.1
Sri Lanka			41				40.3			36.4			39.2		
Suriname															
Sweden				25.3	26.1	26.8	26.4	27.1	28.1	27.3	27.7	27.6	27.6	28.8	28.4
Switzerland							33.9	34.3	33.8	32.9	32.6	31.7	31.6	32.5	32.5
Syrian Arab Republic					35.8										
Tajikistan				32.7	33.6			32.2		30.8					
Thailand	42.8		41.9		42.5		41.8	39.8	40.3	39.6	39.4	37.5	39.3	37.8	37
Trinidad and Tobago															
Tunisia	40.8					37.7					35.8				
Turkey			41.4	42.2	41.3	42.6	39.6	38.4	39	39	38.8	40	40.2	40.2	41.2
Ukraine			29	28.7	28.9	29	29.8	27	26.6	25.3	24.8	24.6	24.7	24.6	24
United Kingdom					36	34.3	34.6	35.7	34.1	34.3	34.4	33.2	32.3	33.2	34
United States	40.4				40.5			41.1			40.4			41	
Uruguay							45.9	46.4	45.1	45.6	44.5	42.2	39.9	40.5	40.1
Venezuela		48.2	50.6	50.4	49.8	52.4	46.9								

Inflation

CPI

Inflation	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014
Afghanistan						12.68626872	7.254895561	8.482889268	30.55494061	-8.28307839	0.892536936	10.20166014	7.218257761	7.654316567	4.604334009
Albania	0.050018136	3.10758827	7.770525834	0.484002612	2.280019169	2.366581957	2.370728319	2.932682482	3.359242418	2.28050222	3.552267388	3.450347153	2.03159594	1.937617549	1.60635202
Argentina							2.370728319								
Australia	4.457435148	4.407135362	2.981574539	2.732595966	2.343255225	2.691831683	2.370728319	2.327611289	4.35029855	1.77111717	2.918340027	3.303850156	1.762780156	2.449888641	2.487922705
Austria	2.344864555	2.649999223	1.810359539	1.355556733	2.06120354	2.299138822	2.370728319	2.168555998	3.21595023	0.50630835	1.81353628	3.286581974	2.485673529	2.000158912	1.605804145
Bangladesh	2.208256209	2.007173742	3.332564933	5.668707734	7.587536385	7.046618162	6.765261171	9.106984969	8.901944895	5.42347236	8.126676392	11.3329152	6.21818237	7.529972823	6.991165327
Belarus	168.6202359	61.13493316	42.53754813	28.39783991	18.10824249	10.33887945	7.033029281	8.421500394	14.83787649	12.9456563	7.735748042	53.22869831	59.21973602	18.31226104	18.11955435
Belgium	2.544517762	2.469258231	1.645214362	1.588964	2.097283112	2.781432637	1.791207701	1.8230563	4.489444205	-0.05314567	2.189299204	3.532082107	2.839663434	1.11309594	0.340002833
Bolivia	4.608229989	1.589653779	0.928258852	3.337274997	4.437380801	5.393231069	4.285549266	8.706247231	14.00040758	3.34936983	2.501567534	9.883001462	4.518812388	5.735205887	5.764576458
Brazil	7.044141059	6.840359025	8.450164377	14.71491972	6.5971851	6.869537209	4.183568129	3.641272991	5.678593903	4.8880348	5.038726901	6.636369353	5.403553391	6.204335948	6.329152227
Bulgaria	10.31626213	7.360939272	5.810143657	2.348641696	6.147130742	5.038838071	7.261594628	8.40253419	12.3487196	2.75320224	2.438990605	4.219903466	2.954568298	0.890093541	-1.4181838
Burundi	24.43202421	9.296187713	-1.36568005	10.64746457	8.176429375	13.25206992	2.745420002	8.412062858	24.40695104	10.5554355	6.493265915	9.59216606	18.16104531	7.937958075	4.405352342
Cambodia	-0.791992529	-0.6006483	3.225083615	1.210011336	3.924781663	6.349255065	6.143255757	7.66839343	24.99717885	-0.6613076	3.99623008	5.478587304	2.932724618	2.94260016	3.855238553
Canada	2.719439957	2.52512014	2.258394409	2.758563214	1.857258719	2.213552034	2.002025395	2.138383993	2.370270674	0.2994668	1.776871541	2.912135089	1.515678231	0.938291898	1.906635907
Chad	3.822600881	12.43128653	5.191818952	-1.75256941	-5.35540029	7.890365675	8.03628898	-8.97473962	10.29697582	9.95242291	-2.07786575	-3.7042957	14.01820542	0.145451048	1.680835875
Chile	3.84327329	3.56910168	2.489394543	2.810178612	1.054738757	3.052576582	3.392017383	4.407799046	8.716267366	0.35304631	1.410809606	3.340317436	3.00652059	1.928220313	4.395
China	0.347806257	0.719132437	-0.7319755	1.127601961	3.824637624	1.776416168	1.649433101	4.816765313	5.925255289	-0.72817133	3.175327981	5.553897059	2.619526165	2.621049027	1.921643416
Colombia	9.225346832	7.96556175	6.351507752	7.129787972	5.904021968	5.051016106	4.293425911	5.544384903	6.996882577	4.20251827	2.272002616	3.415031896	3.169302599	2.016993092	2.898838115
Costa Rica	10.99252429	11.22697551	9.164815792	9.44756481	12.31503093	13.79797528	11.47053071	9.357331387	13.42335635	7.84382584	5.660230651	4.883012481	4.504067692	5.220224853	4.519346487
Cyprus	4.141657647	1.977056383	2.801155052	4.139065387	2.286217068	2.558451986	2.495874931	2.372492743	4.669171081	0.37407998	2.381258363	3.289753749	1.286178005	-0.39935768	-1.35498885
Czech Republic	3.775388292	4.66267557	1.90298097	0.118739206	2.760107817	1.857097891	2.533992583	2.853124372	6.358663802	1.01937735	1.472727273	1.917219136	3.287623066	1.438297872	0.34398859
Denmark	2.903282032	2.337870003	2.424436612	2.075078206	1.154356931	1.817814583	1.924221385	1.693265862	3.416267943	1.30470991	2.31092437	2.758682261	2.397914857	0.78907178	0.56402054
Dominican Republic	7.724135662	8.883068488	5.223367698	27.44971274	51.46085983	4.190202605	7.572805239	6.143566552	10.6446211	1.44215132	6.329932201	8.740359897	3.624901497	4.714828897	3.050108932
Ecuador	96.09411369	37.67802094	12.48401857	7.929410005	2.742181329	2.407769783	3.034874293	2.276301235	8.400825434	5.157924	3.556123806	4.475921602	5.10065348	2.738631757	3.579251126
Egypt	2.683805353	2.269757205	2.73723855	4.507776363	11.27061933	4.869396969	7.644526445	9.318969058	18.31683168	11.7634954	11.26518827	10.0539169	7.11815562	9.42157654	10.1445712
El Salvador	2.271287568	3.750820575	1.865525036	2.120390917	4.451943924	4.690948709	4.037123594	4.578085724	6.707922935	1.0559503	0.907806937	5.128923767	1.729577995	0.792509315	1.105775113
Fiji	1.0921646	4.272670245	0.762032086	4.172747778	2.827485194	2.365764538	2.490836388	4.803706413	7.732278579	3.21469575	3.680014831	7.282401406	3.040333764	2.916290184	0.528118153
Finland	3.042100807	2.578440801	1.571220128	0.877440386	0.187120559	0.62387445	1.566663807	2.510665652	4.065953554	-9.1736E-07	1.184135232	3.416807543	2.808336226	1.478286157	1.041196212
France	1.675959887	1.634780795	1.923412287	2.098472191	2.142089646	1.745869364	1.675124496	1.48799806	2.812861949	0.08762048	1.531122704	2.111597952	1.954195316	0.863715498	0.507758823
Gabon	0.504920026	2.137620527	0.036682889	2.235353136	0.408205307	3.708333333	-1.40940137	5.030318837	5.264301456	1.88570755	1.461544027	1.263317078	2.652418287	0.505441059	4.690457518
Germany	1.440268324	1.983856851	1.420806713	1.034223392	1.665736088	1.546910755	1.577429241	2.29834058	2.628383067	0.31273772	1.103808561	2.075172931	2.008491182	1.504722267	0.906797035
Ghana	25.19321937	32.9054089	14.81624006	26.67494973	12.62457406	15.11818572	10.91516997	10.73272807	16.52214331	19.2507144	10.70756812	8.726836831	7.12635006	11.66619231	15.48961603
Greece	3.15118063	3.37396699	3.629358946	3.530651885	2.898848959	3.54507354	3.19594393	2.895001475	4.152797447	1.21008452	4.712972862	3.329864062	1.501527961	-0.92216881	-1.3112105
Guatemala	5.977577347	7.285873666	8.132630543	5.603476754	7.578622473	9.108649857	6.560852828	6.821617536	11.35576113	1.85910255	3.859509098	6.215341763	3.78250024	4.343371313	3.418361697
Haiti	13.70772152	14.17328042	9.853443781	39.28144555	22.81171126	15.72864619	13.06571209	8.528784648	15.51967613	-0.01463628	5.696511023	8.401466717	6.28908183	5.853472722	4.566173531
Honduras	11.04803493	9.674155569	7.69050972	7.674166394	8.113790971	8.809060748	5.577752077	6.936214709	11.40342708	5.49634274	4.69889065	6.762279573	5.196186155	5.161898986	6.129249303
Hungary	9.803610169	9.116809117	5.265448216	4.661016949	6.744346796	3.561517114	3.930326038	7.958745165	6.042512539	4.21171171	4.855557957	3.929920989	5.652145171	1.73319985	-0.22756627
Iceland	5.136471232	6.405085504	5.197022302	2.055663298	3.158193243	3.987047828	6.687079061	5.051557365	12.69439428	12.0031298	5.396731132	4.001026643	5.185899888	3.872279237	2.044614815
India	4.009433962	3.684807256	4.392199745	3.805865922	3.76723848	4.246353323	6.145522388	6.369996746	8.351816444	10.8773911	11.99229692	8.857845297	9.312445605	10.90764331	6.657577823
Indonesia	3.68861916	11.50011488	11.90011757	6.757317194	6.064059885	10.45319842	13.1086721	6.406562813	10.22666455	4.38641555	5.134204008	5.35604779	4.279499996	6.412513302	6.394925408
Iraq	4.978962132	16.3740815	19.3166946	33.6162106	26.96190682	36.95948092	53.23096291	-10.0674926	12.66285283	6.87361547	2.877747253	5.801455371	6.089096416	1.879498007	2.235974079
Ireland	5.5907173	4.872904873	4.614733277	3.49048968	2.199628507	2.429691984	3.931639895	4.897115644	4.060304951	-4.47810339	-0.92209583	2.557188832	1.696208973	0.508714869	0.182542317
Italy	2.537685321	2.785165427	2.465323192	2.672555528	2.206736614	1.985292985	2.090843901	1.829741122	3.347832584	0.77476813	1.525516021	2.780632729	3.041363332	1.219993423	0.24104743
Japan	-0.676578684	-0.7400555	-0.92349403	-0.25654182	-0.00857339	-0.28294607	0.249355116	0.060039454	1.380078862	-1.35283673	-0.71997943	-0.2676336	-0.05193906	0.346440326	2.761954083
Jordan	0.666880926	1.772204374	1.83299389	1.63	3.361868215	3.493685346	6.251724667	4.743565853	13.97074051	-0.73973862	4.83932971	4.169270898	4.5152	4.824561404	2.898931704
Kazakhstan	13.18089059	8.354137772	5.836924521	6.438218101	6.88205439	7.579999291	8.721693861	10.84683621	17.13989978	7.31607858	7.400463563	8.452904662	5.19568369	5.942838716	6.84944977
Kenya	9.980025154	5.738598143	1.961308217	9.81569063	11.62403554	10.31277836	14.45373421	9.75888023	26.23981664	9.23412592	3.961388891	14.02249396	9.377767482	5.71749357	6.878154993
Korea, Rep.	2.259184779	4.066419648	2.762511352	3.514879242	3.590591391	2.754090201	2.241847104	2.534846871	4.673795957	2.75668648	2.939181359	4.02584625	2.187221208	1.301377058	1.274714702
Kuwait	1.812946139	1.3	0.888450148	0.961350294	1.248564437	4.142975836	3.057013392	5.484949833	10.58270979	4.60959548	4.496402878	4.839403499	3.255146003	2.682296841	2.908926729
Kyrgyz Republic	18.70073428	6.919679894	2.134209863	2.974612952	4.110650847	4.338673918	5.552123332	10.23010327	24.52010242	6.83656248	7.967722256	16.63632627	2.768442365	6.613752024	7.534247298
Laos	25.08464143	7.811807948	10.63134463	15.48935292	10.46226673	7.165417599	6.80218938	4.522297607	7.629305029	0.03529437	5.982348385	7.568988561	4.255126778	6.371427178	4.129243069
Latvia	2.654254778	2.487040036	1.938875739	2.942647529	6.192385472	6.748450279	6.536199088	10.09297758	15.40231911	3.53410673	-1.08463595	4.370735599	2.257789244	-0.02945478	0.620490637
Libya	-2.9	-8.81393752	-9.79764706	-2.19115192	-2.19756774	2.650205761	1.459268762	6.25098783	10.3607289	2.45990026	2.799895001	15.51848153	6.059803922	2.605818027	
Lithuania	0.981661536	1.367110412	0.281472958	-1.13431154	1.164131523	2.658471096	3.739138618	5.737162108	10.92587647	4.45306007	1.319184445	4.130300688	3.089983269	1.047466621	0.103789914
Luxembourg	3.15076707	2.663821106	2.074086136	2.049840306	2.225679164	2.487696652	2.660836194	2.312458618	3.40187963	0.368042	2.273679116	3.410683411	2.662841655	1.734039635	0.628543985
Macedonia	6.60742291	5.198885257	2.314597941	0.855562123	-0.44865021	0.525515951	3.213629296	2.251757983	8.33189667	-0.73963396	1.50997522	3.904754221	3.316055667	2.784383898	-0.2810182
Malawi	29.58148846	22.7	14.74463461	9.576797869	11.42980608	15.41034466	13.97429435	7.952209909	8.712601866	8.42204428	7.411590929	7.622822628	21.271265	27.28333333	23.79206495
Malaysia	1.534740237	1.416784732	1.807872463	0.992816208	1.518542199	2.960865088	3.609235642	2.027353178	5.440782211	0.58330841	1.710037175	3.174470922	1.663571025	2.105012312	3.142990509
Malta	2.369592875	2.929492443	2.188490481	1.303837774	2.790828481	3.007966525	2.773264171	1.251349406	4.256736946	2.08535733	1.516833766	2.721905169	2.417624644	1.374906203	0.311500058
Mauritania	3.254067458	4.714896347	3.895705258	5.151901508	10.36762335	12.12564872	6.241033281	7.254108413	7.346635412	2.22092032	6.283540874	5.686319596	4.902427272	4.129101738	3.534368561
Mauritius	4.199288256	5.389344262	6.419333722	3.921053576	4.710370601	4.93717005	8.913501057	8.827292724	9.732283171	2.51609128	2.932363014	6.522492549	3.852160333	3.543295739	3.21769192
Mexico	9.491559191	6.367736576	5.030731124	4.546899236	4.688405104	3.988059423	3.629467863	3.966846724	5.124980321	5.29735888	4.156730933	3.407376943	4.111508546	3.806389823	4.018617202
Mongolia	11.59553876	6.277360205	0.917074687	5.128994994	8.241154494	12.71656741	5.095166617	9.637206329	27.9664723	7.58671755	10.07991843	8.409175072	14.31760204	10.48814505	12.22544812
Morocco	1.894634568	0.619801875	2.795619669	1.167733675	1.493444034	0.98264166	3.28476167	2.042085127	3.707317073	0.99482596	0.987355331	0.914610714	1.287128713	1.872321227	0.442869796
Mozambique									14.5028053	3.78861331	12.42554217	11.16660561	2.60245457	4.261352509	2.559748758
Myanmar	-0.109165515	21.10130538	57.07451126	36.58971753	4.534213741	9.368618142	19.99648734	35.02459707	26.79953719	1.47234311	7.718381959	5.021460146	1.467583227	5.483386189	5.046410888
Nepal	2.478820207	2.688303735	3.029399487	5.707009319	2.841811312	6.836332659	6.920335807	2.269219244	9.907830053	11.0948237	9.326504107	9.227075461	9.459809804	9.040163119	8.364154697
Netherlands	2.360522338	4.155841272	3.287531047	2.09199839	1.263647392	1.688130179	1.101501065	1.613858598	2.486501983	1.18977687	1.275305696	2.341070178	2.455547653	2.506898527	0.97603508
Oman		-0.81666667	-0.28566627	0.18537243	0.756938604	1.861435726	3.204130132	5.95521677	12.09082734	3.9351759	3.203396372	4.042188671	2.947734953	1.045528388	1.022343145
Pakistan	4.366664513	3.148261446	3.290344726	2.914134701	7.444624693	9.06332737	7.921084401	7.598684411	20.28612109	13.6477651	13.88113926	11.91676947	9.682351861	7.692156119	7.189384028
Paraguay	8.982159768	7.268060286	10.51024209	14.23679705	4.32326493	6.807382031	9.591308846	8.128776435	10.15454466	2.59194673	4.651162791	8.253968254	3.67591898	2.683857387	5.028827675
Peru	3.757338333	1.977098785	0.193135004	2.259377534	3.662473201	1.616301939	2.002258012	1.779986447	5.785875982	2.93623154	1.528320597	3.370685025	3.653732359	2.816502821	3.226046789
Philippines	3.977125032	5.345501956	2.722772277	2.289156627	4.829210836	6.516853933	5.485232068	2.9	8.260447036	4.21903052	3.789836348	4.718417047	3.026963911	2.582687661	3.597823439
Poland	9.900175388	5.408335456	1.90528215	0.682701376	3.382646819	2.183798724	1.284693944	2.458743124	4.164971935	3.79539242	2.580693703	4.239401496	3.560371517	0.991982606	0.053821313
Portugal	2.853030393	4.369903306	3.600346583	3.218990907	2.365362041	2.277163949	3.107665459	2.453965281	2.588506577	-0.83553002	1.402572899	3.653011004	2.773338541	0.274416667	-0.27815337
Qatar	1.650335224	1.471334348	0.24	2.264565044	6.79933665	8.814395323	11.83580962	13.75816258	15.05014516	-4.86327802	-2.42525675	1.138366235	2.315348534	3.214236565	3.351638736
Romania	45.66659404	34.47701235	22.53988626	15.27348899	11.87436359	9.014912833	6.558514123	4.837329283	7.850802557	5.58742004	6.091416686	5.789253288	3.334922677	3.984712355	1.068309877
Russian Federation	20.79876066	21.47700721	15.78873079	13.66329302	10.88861573	12.68530395	9.668654548	9.007298689	14.11076778	11.6473296	6.849392303	8.440464859	5.074743008	6.754668339	7.8201697
Saudi Arabia	-1.125002569	-1.12094016	0.247187384	0.612193645	0.515506094	0.479232053	2.209018073	4.167829616	9.870245874	5.05722413	5.339406521	5.83454466	2.885958558	3.506268583	2.67704491
Serbia	71.12062879	95.00522581	19.49083216	9.876178897	11.02636272	16.11998065	11.724023	6.391706444	12.41098678	8.11695092	6.142553602	11.13739763	7.330385896	7.694263629	2.082447939
Singapore	1.361623924	0.997197956	-0.39167687	0.5079053	1.662727199	0.425106277	0.96304741	2.104925808	6.627997246	0.59687345	2.823277186	5.247910208	4.575959852	2.358601146	1.024982528
Slovak Republic	12.0357806	7.329620191	3.12714223	8.554143054	7.548500882	2.709084946	4.483331204	2.756723716	4.598179763	1.61510464	0.957018133	3.919285991	3.606102635	1.40047369	-0.07616533
Slovenia	8.911744187	8.379665875	7.480777707	5.544164218	3.592975942	2.451501323	2.457924442	3.657495633	5.647423806	0.83926225	1.801170221	1.802851719	2.59741386	1.769200859	0.199343827
South Africa	5.338951583	5.701904835	9.494706671	5.679418064	-0.69203014	2.062852225	3.243901675	6.17781207	10.05528203	7.26456215	4.063538973	5.017157733	5.723943662	5.776404135	6.136020151
Spain	3.433516755	3.589834949	3.065765372	3.039233684	3.039201165	3.368453988	3.515374911	2.787030473	4.075660764	-0.28799684	1.79988133	3.196146412	2.446000185	1.408546292	-0.15087031
Sri Lanka	6.17627591	14.1584558	9.55103167	6.314637871	7.57592583	11.6396861	10.02018361	15.84211149	22.56449553	3.46496322	6.217648893	6.716768436	7.542913732	6.908450348	3.179002282
Suriname	59.40168655	38.58628789	15.52739892	23.00223218	9.986321	9.898004896	11.28130473	6.426279345	14.66714274	-0.16298784	6.944787295	17.71177964	5.006863194	1.923436041	3.383412727
Sweden	0.899143734	2.405958341	2.158482136	1.925655349	0.373659829	0.453170853	1.360214686	2.212168834	3.437049106	-0.49446054	1.157988027	2.961150738	0.888377507	-0.04429297	-0.17963849
Switzerland	1.558518468	0.989017153	0.642708442	0.638298911	0.802882618	1.171951144	1.059525055	0.732336631	2.42604804	-0.48046793	0.688233449	0.231336577	-0.69254584	-0.21730852	-0.01322916
Syrian Arab Republic	-3.846153846	3	-0.13050528	5.796829449	4.433141367	7.240349393	10.02411054	3.907709504	15.74532522	2.92089712	4.397413832	4.753163889	36.70229534		
Tajikistan		38.59188946	12.24998478	16.3034912	7.141965082	7.091932448	10.01086518	13.14912472	20.4705219	6.44823481	6.419565091	12.43154904	5.83116601	5.009646453	6.104427651
Thailand	1.591969175	1.626908873	0.697308977	1.804349946	2.759149262	4.540369196	4.63747436	2.241540953	5.468489496	-0.84571609	3.247588424	3.808790581	3.014899503	2.184886185	1.895141819
Trinidad and Tobago	3.555413197	5.536653263	4.150058617	3.811106244	3.72154939	6.874534596	8.329603515	7.894388348	12.03034455	6.97808725	10.54920032	5.107132893	9.260281371	5.199817405	5.684418146
Tunisia	2.962307947	1.983333333	2.721032849	2.712592475	3.63228005	2.017786414	4.490513515	3.416546647	4.920696325	3.5248138	4.416268965	3.544029353	5.138117098	5.798544619	4.937735303
Turkey	54.91537058	54.40018876	44.96412095	21.60243845	8.598261681	8.179160368	9.597242123	8.75618091	10.44412838	6.25097663	8.566444206	6.471879671	8.891569965	7.493090305	8.854572714
Ukraine	28.20309724	11.95880854	0.757420846	5.179677819	9.048067861	13.56957649	9.052524911	12.83877962	25.22646171	15.8811925	9.372931051	7.955724663	0.568727972	-0.23894863	12.07185629
United Kingdom	0.797319159	1.238106156	1.234288303	1.375838926	1.346132627	2.035928144	2.34741784	2.314428691	3.596902384	2.18353497	3.301568967	4.463287365	2.800820623	2.568329718	1.471956687
United States	3.376857271	2.826171119	1.586031627	2.270094973	2.677236693	3.392746845	3.225944101	2.852672482	3.839100297	-0.35554627	1.640043442	3.156841569	2.069337265	1.464832656	1.622222977
Uruguay	4.763824727	4.359340652	13.97247259	19.37973017	9.157605075	4.69927739	6.398903436	8.114214042	7.860951729	7.0991674	6.676386868	8.093775202	8.097765806	8.57513504	8.877353332
Venezuela										27.0809414	28.18746471	26.09021232	21.06899563	40.63942752	62.16864998

CPI volatility

Inflation volatility	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014
Afghanistan							-0.42813007	0.169264147	2.601949718	-1.27108802	-1.10775425	10.4299585	-0.29244283	0.060410534	-0.39846569
Albania	-0.871563173	61.12922946	1.500500439	-0.93771302	3.710757987	0.037965816	0.001752047	0.237038617	0.145450433	-0.32112603	0.5576689	-0.0286916	-0.41119086	-0.04625841	-0.17096538
Argentina							0.001752047								
Australia	2.005425649	-0.01128447	-0.32346654	-0.08350573	-0.14248017	0.148757359	0.001752047	-0.34531001	0.868997015	-0.59287457	0.647739677	0.132099113	-0.4664467	0.389786828	0.015524813
Austria	3.121094211	0.130128909	-0.31684526	-0.25122237	0.520558668	0.115435122	0.001752047	0.5043256	0.482991554	-0.84256338	2.581881041	0.812250468	-0.24369039	-0.19532518	-0.19716172
Bangladesh	-0.638387723	-0.09105939	0.660327087	0.701004436	0.338494899	-0.07129036	-0.03992795	0.346139453	-0.02251459	-0.39075422	0.49842681	0.394532605	-0.45131661	0.210960434	-0.07155504
Belarus	-0.425834401	-0.63744012	-0.30420226	-0.33240534	-0.36233733	-0.42905119	-0.31974937	0.197421489	0.761904149	-0.12752634	-0.40244451	5.880872803	0.112552775	-0.69077436	-0.01052337
Belgium	1.27017154	-0.02957713	-0.33372122	-0.03419029	0.319905997	0.326207521	-0.35601255	0.017780517	1.462592189	-1.01183792	-42.1943068	0.613339145	-0.19603697	-0.60801836	-0.6945431
Bolivia	1.1339177	-0.65504027	-0.41606225	2.595198679	0.32964194	0.215408664	-0.20538371	1.03153591	0.608087527	-0.76076626	-0.25312293	2.950723428	-0.54276923	0.269184333	0.005121101
Brazil	0.449874895	-0.02892929	0.235339307	0.741376743	-0.55166693	0.041283078	-0.39099709	-0.12962503	0.559507875	-0.1392174	0.03082877	0.317072642	-0.18576663	0.148195548	0.020117589
Bulgaria	3.009362788	-0.28647225	-0.21067904	-0.59576874	1.617313128	-0.18029431	0.441124824	0.157119699	0.469642291	-0.77704553	-0.11412588	0.730184387	-0.29984932	-0.6987399	-2.59329749
Burundi	6.216827859	-0.61950808	-1.14690754	-8.79645609	-0.23207733	0.620764922	-0.79283085	2.064034957	1.901422808	-0.56752339	-0.3848415	0.477248304	0.893320569	-0.56291293	-0.44502701
Cambodia	-1.19759272	-0.24159853	-6.36933779	-0.62481241	2.24359082	0.617734593	-0.03244464	0.248262116	2.259767392	-1.02645529	-7.04292173	0.370938909	-0.46469328	0.003367361	0.310146926
Canada	0.567542443	-0.07145582	-0.10562893	0.221470972	-0.32672969	0.191838279	-0.09555982	0.068110323	0.10844015	-0.87365713	4.933450797	0.638911436	-0.47953025	-0.38094255	1.032028531
Chad	-1.476333019	2.252049302	-0.58235868	-1.33756366	2.055742187	-2.47334751	0.018493858	-2.11677662	-2.14732864	-0.03346156	-1.20877989	0.782740637	-4.78431058	-0.98962413	10.55602453
Chile	0.151754674	-0.07133805	-0.3025151	0.128860277	-0.62467199	1.894154181	0.111198128	0.299462399	0.977464779	-0.9594957	2.996103539	1.367659974	-0.09992968	-0.35865388	1.279303859
China	-1.248171785	1.067623635	-2.01785911	-2.5404914	2.391833073	-0.53553347	-0.07148272	1.920255031	0.230131614	-1.12289282	-5.36068798	0.749078235	-0.52834449	0.00058135	-0.26684187
Colombia	-0.151589758	-0.13655693	-0.20262902	0.122534719	-0.1719218	-0.14447878	-0.14998768	0.291366153	0.261976342	-0.39937276	-0.45937115	0.503093294	-0.0719552	-0.36358457	0.437207756
Costa Rica	0.094231681	0.021328243	-0.18367901	0.030851577	0.303513781	0.120417428	-0.16868015	-0.18422856	0.434528264	-0.41565838	-0.27838395	-0.1373121	-0.07760471	0.159002308	-0.1342621
Cyprus	1.540894262	-0.52264128	0.416831142	0.477628089	-0.44764896	0.119076584	-0.02445895	-0.04943444	0.96804441	-0.919883	5.365639749	0.381519032	-0.27388109	-1.16718253	2.392920518
Czech Republic	0.767960403	0.235018814	-0.59186932	-0.93760358	22.24512619	-0.32716473	0.364490583	0.125940301	1.228666883	-0.83968686	0.444732187	0.301815463	0.714787321	-0.56251132	-0.76083634
Denmark	0.162337788	-0.19474926	0.037027983	-0.1440988	-0.44370437	0.574742208	0.058535564	-0.12002544	1.017561459	-0.61808912	0.771216997	0.193757051	-0.13077527	-0.6709342	-0.2852101
Dominican Republic	0.193738611	0.150040455	-0.41198611	4.255175268	0.874732181	-0.91857496	0.807264696	-0.18873306	0.7326452	-0.8645183	3.38922887	0.380798343	-0.58526862	0.300677798	-0.35308173
Ecuador	0.839391069	-0.60790501	-0.66866576	-0.36483513	-0.65417587	-0.12195092	0.260450361	-0.24995205	2.690559626	-0.38602176	-0.31055134	0.258651792	0.139576144	-0.46308218	0.306948668
Egypt	-0.1284929	-0.15427652	0.205960948	0.646833581	1.50026142	-0.56795658	0.569912351	0.219038108	0.965542709	-0.35777674	-0.04236047	-0.1075234	-0.29200175	0.323598	0.076738183
El Salvador	3.411748012	0.65140717	-0.50263549	0.136618848	1.099586396	0.053685489	-0.13938015	0.133996921	0.465224406	-0.84258163	-0.14029388	4.649795741	-0.66277955	-0.54179036	0.395283428
Fiji	-0.445228215	2.912112007	-0.82164968	4.475816382	-0.3223925	-0.16329729	0.052867412	0.928551565	0.609648449	-0.58424988	0.144747471	0.97890545	-0.53197667	-0.14436485	-0.81890754
Finland	1.617465331	-0.15241441	-0.39063168	-0.44155477	-0.78674271	2.334077522	1.511184433	0.602555469	0.61947233	-1.00000023	-1290808	1.885487613	-0.17808182	-0.47360785	-0.29567343
France	2.120145163	-0.02457045	0.176556693	0.091015278	0.020785339	-0.18496905	-0.04052128	-0.11170897	0.890366678	-0.96885006	16.47448469	0.379117393	-0.07454195	-0.55801987	-0.4121226
Gabon	-1.26072446	3.233582385	-0.98283938	59.93721548	-0.81738666	8.084480936	-1.38006329	-4.56911733	0.046514471	-0.6417934	-0.224936	-0.13562845	1.099566556	-0.80944142	8.279929748
Germany	1.460173588	0.377421705	-0.28381591	-0.2720872	0.610615366	-0.07133503	0.019728666	0.457016594	0.143600339	-0.88101517	2.529502455	0.880011629	-0.0321331	-0.25081958	-0.39736584
Ghana	1.030291851	0.306121636	-0.54973238	0.800385902	-0.52672548	0.197520459	-0.27801059	-0.01671453	0.539416932	0.16514632	-0.44378334	-0.18498423	-0.18339827	0.637050132	0.327735359
Greece	0.195151095	0.07069933	0.075694859	-0.02719683	-0.17894795	0.222924544	-0.09848304	-0.09416387	0.434471617	-0.70860979	2.894746848	-0.29346844	-0.54907229	-1.6141536	0.421876875
Guatemala	0.146533146	0.218867317	0.11621899	-0.3109884	0.352485752	0.201887268	-0.27971182	0.039745551	0.664672794	-0.83628552	1.076006568	0.610396971	-0.39142522	0.148280512	-0.21297042
Haiti	0.580877544	0.033963259	-0.30478735	2.98657022	-0.41927516	-0.31050126	-0.16930472	-0.3472392	0.819682027	-1.00094308	-390.204889	0.474844283	-0.25143049	-0.06926434	-0.21992059
Honduras	-0.052788042	-0.12435509	-0.20504589	-0.00212513	0.057286297	0.08568988	-0.36681648	0.2435502	0.644041824	-0.51800957	-0.14508777	0.439122567	-0.23159253	-0.00659853	0.187402024
Hungary	-0.019417773	-0.07005593	-0.42244615	-0.11479199	0.446968949	-0.47192557	0.103553882	1.024958003	-0.2407707	-0.30298668	0.152870445	-0.19063452	0.438233793	-0.69335539	-1.13129834
Iceland	0.589337028	0.246981676	-0.18861	-0.60445363	0.536337807	0.26244581	0.677200613	-0.24457939	1.51296647	-0.05445431	-0.55038967	-0.25862035	0.296142303	-0.25330621	-0.47198673
India	-0.141415926	-0.08096572	0.191975438	-0.13349434	-0.01014945	0.127179324	0.447247066	0.036526489	0.311117851	0.30239825	0.102497537	-0.26137208	0.051321771	0.171297399	-0.38964104
Indonesia	-0.819872567	2.117728988	0.034782495	-0.43216383	-0.10259357	0.723795381	0.254034562	-0.51127294	0.596279447	-0.57108053	0.170478252	0.043208992	-0.20099667	0.498425822	-0.00274275
Iraq	-0.604145634	2.288653551	0.179711644	0.74026723	-0.19794925	0.370803674	0.440251908	-1.18912851	-2.25779609	-0.45718271	-0.58133427	1.015971126	0.049580843	-0.69133384	0.189665576
Ireland	2.425844652	-0.12839362	-0.05298105	-0.24362049	-0.36982237	0.104591969	0.618163916	0.245565661	-0.17087828	-2.10289829	-0.79408787	-3.7723544	-0.33668998	-0.70008715	-0.64116969
Italy	0.52554639	0.097521984	-0.11483779	0.084058892	-0.17429719	-0.10034892	0.053166422	-0.12487914	0.829675545	-0.7685762	0.968996864	0.822748952	0.093766646	-0.59886627	-0.80241907
Japan	0.982375543	0.093820308	0.247871304	-0.72220522	-0.96658093	32.00282946	-1.88128143	-0.75922108	21.98619921	-1.98026045	-0.46780021	-0.62827604	-0.80593222	-7.67013107	6.972380459
Jordan	0.099997857	1.657452486	0.03430164	-0.11074444	1.062495837	0.039209488	0.789435524	-0.24123884	1.94519038	-1.05294927	-7.54194547	-0.13846108	0.082971126	0.068515548	-0.39913052
Kazakhstan	0.588819509	-0.36619322	-0.30131335	0.10301548	0.068937753	0.101415197	0.15061935	0.243661653	0.580175034	-0.57315511	0.011534182	0.142212861	-0.38533748	0.143803024	0.152555218
Kenya	0.738074408	-0.42499162	-0.6582252	4.00466502	0.184230023	-0.11280568	0.401536396	-0.32481945	1.688814293	-0.64808725	-0.57100554	2.539792318	-0.33123398	-0.390314	0.203001789
Korea, Rep.	1.778836724	0.799950003	-0.32065266	0.272349248	0.021540469	-0.23297031	-0.18599358	0.130695696	0.843817869	-0.41018254	0.066200812	0.369716856	-0.45670523	-0.40500894	-0.0204878
Kuwait	-0.393827785	-0.28293512	-0.31657681	0.082053164	0.298761175	2.318191448	-0.26212136	0.794218451	0.929408674	-0.56442201	-0.02455587	0.076283338	-0.32736627	-0.17598263	0.08449098
Kyrgyz Republic	-0.494996848	-0.62997817	-0.6915739	0.393777155	0.381911164	0.055471282	0.279682095	0.84255692	1.396857762	-0.7211854	0.165457389	1.087965135	-0.83359052	1.388979488	0.139178982
Laos	-0.799758799	-0.68858204	0.360932668	0.456951445	-0.32455108	-0.31511805	-0.05069184	-0.33517029	0.687041785	-0.99537384	168.4986685	0.26522029	-0.43782095	0.497353078	-0.35191238
Latvia	0.122392663	-0.06299875	-0.22040831	0.51770816	1.104358544	0.089798158	-0.03145184	0.544166181	0.52604313	-0.7705471	-1.30690526	-5.02967982	-0.48343038	-1.01304585	-22.0658736
Libya	-2.094908759	2.039288801	0.111608408	-0.77635937	0.002928058	-2.20597227	-0.4493753	3.283643968	0.657454658	-0.76257459	0.13821485	4.542522675	-0.60951051	-0.56998311	-1
Lithuania	0.349322765	0.392649464	-0.79411103	-5.02991302	-2.02628906	1.283651841	0.406499632	0.53435395	0.904404349	-0.59242995	-0.70375777	2.130950115	-0.2518745	-0.6610122	-0.90091339
Luxembourg	2.073329119	-0.15454839	-0.22138685	-0.01168989	0.085781735	0.117724734	0.071800673	-0.13271363	0.471109409	-0.89181216	5.177770823	0.500072454	-0.21926449	-0.34880107	-0.63752617
Macedonia	-6.164927887	-0.21317504	-0.55478957	-0.63036253	-1.52439232	-2.17132667	5.115188876	-0.29930998	2.700174145	-1.08877138	-3.04151688	1.585972384	-0.15076456	-0.16033258	-1.10092653
Malawi	-0.339760289	-0.2326282	-0.35045663	-0.35048931	0.193489331	0.348259502	-0.09318742	-0.43094015	0.095620207	-0.03334912	-0.11997721	0.028500183	1.790470937	0.282638025	-0.12796341
Malaysia	-0.44080672	-0.07685698	0.276038922	-0.45083725	0.529530025	0.949807578	0.218980107	-0.43828739	1.683687416	-0.89278961	1.931617577	0.856375387	-0.4759533	0.265357644	0.493098397
Malta	0.109999723	0.236285133	-0.25294551	-0.40422963	1.140472178	0.077804152	-0.07802692	-0.54878103	2.401717318	-0.51010425	-0.27262645	0.794465043	-0.11178954	-0.43129873	-0.77343905
Mauritania	-0.20129436	0.448923972	-0.1737453	0.322456697	1.012387724	0.169568792	-0.48530314	0.162324905	0.012755117	-0.69769558	1.829250922	-0.09504534	-0.13785583	-0.1577434	-0.14403452
Mauritius	-0.392213147	0.283394693	0.191115915	-0.3891806	0.20130228	0.048148961	0.805386682	-0.00967166	0.102521858	-0.74146958	0.165443812	1.224312787	-0.4040364	-0.08017958	-0.09189293
Mexico	-0.427723571	-0.32911585	-0.20996557	-0.09617526	0.031121399	-0.14937824	-0.0899163	0.092955462	0.2919532	0.03363497	-0.21532012	-0.18027484	0.206649166	-0.07421089	0.055755555
Mongolia	0.532799527	-0.45864006	-0.85390759	4.592777847	0.606777644	0.543056548	-0.59932846	0.89144086	1.901927317	-0.72872097	0.328627086	-0.16574969	0.702616715	-0.26746497	0.165644455
Morocco	1.76676794	-0.67286469	3.510505342	-0.58229881	0.278925209	-0.34202981	2.342786901	-0.37831559	0.815456674	-0.73165879	-0.00750949	-0.07367623	0.40729678	0.454649569	-0.76346484
Mozambique										-0.73876686	2.279707154	-0.10131844	-0.76694309	0.637435888	-0.39931072
Myanmar	-1.005932572	-194.29644	1.704785806	-0.35891317	-0.87607956	1.06620567	1.13441161	0.751537482	-0.23483667	-0.94506088	4.242244071	-0.34941544	-0.70773775	2.736337462	-0.07969078
Nepal	-0.667322139	0.084509368	0.126881404	0.883874789	-0.50204894	1.405625113	0.01228775	-0.67209406	3.366184571	0.1198036	-0.1593824	-0.01066087	0.02522298	-0.04436101	-0.07477834
Netherlands	0.094263453	0.760560027	-0.20893729	-0.36365669	-0.39596158	0.335918698	-0.3475023	0.465144836	0.540718614	-0.52150576	0.071886441	0.835693344	0.048899634	0.020912188	-0.61066032
Oman			-0.65020456	-1.64891255	3.083339705	1.459163421	0.721321927	0.8586064	1.030291727	-0.67453212	-0.18595853	0.26184468	-0.2707577	-0.64531126	-0.02217562
Pakistan	0.054078434	-0.27902374	0.045130712	-0.11433757	1.55466046	0.217432408	-0.1260291	-0.0407015	1.669688593	-0.32723634	0.01709981	-0.14151359	-0.18750196	-0.20554879	-0.06536166
Paraguay	0.330243796	-0.19083378	0.446086256	0.354564142	-0.69633163	0.574592846	0.408957041	-0.15248518	0.24920949	-0.74475008	0.794466965	0.774603175	-0.55464828	-0.26988125	0.873731331
Peru	0.082912554	-0.47380337	-0.90231393	10.69843627	0.621009834	-0.55868566	0.238789588	-0.11101045	2.250516875	-0.49251737	-0.47949588	1.205482953	0.083973237	-0.22914364	0.145408684
Philippines	-0.33034312	0.344061832	-0.49064236	-0.1592552	1.109602628	0.349465607	-0.1583006	-0.47130769	1.848430012	-0.48924913	-0.10172815	0.24501868	-0.35847894	-0.14677289	0.393054024
Poland	0.38385162	-0.45371317	-0.64771376	-0.64167965	3.954797132	-0.35441125	-0.41171596	0.913874613	0.693943501	-0.08873517	-0.32004562	0.64273718	-0.16017119	-0.72138228	-0.94574369
Portugal	0.219194311	0.531670786	-0.17610383	-0.10592193	-0.26518524	-0.03728735	0.364708703	-0.21035088	0.054826079	-1.32278459	-2.67866248	1.604507051	-0.2408075	-0.90105187	-2.01361689
Qatar	-0.243556492	-0.10846334	-0.83688276	8.435687683	2.002491215	0.296361068	0.3427818	0.162418374	0.093906623	-1.32313828	-0.50131234	-1.46937968	1.033922355	0.388230116	0.042747996
Romania	-0.002995104	-0.24502773	-0.34623435	-0.3223795	-0.22255068	-0.24080876	-0.27248169	-0.26243518	0.622962196	-0.28829951	0.090202032	-0.04960478	-0.42394597	0.194844001	-0.73189787
Russian Federation	-0.757438938	0.032609951	-0.26485424	-0.13461739	-0.2030753	0.165006119	-0.23780663	-0.06840206	0.566592635	-0.17457861	-0.41193453	0.232293974	-0.39876025	0.331036533	0.157742958
Saudi Arabia	-0.156513438	-0.00361102	-1.22051791	1.476637911	-0.15793622	-0.07036588	3.609495672	0.88673405	1.368198027	-0.48762937	0.05579788	0.092732804	-0.50536696	0.214940725	-0.23649748
Serbia	0.675243491	0.335832197	-0.79484463	-0.49329106	0.116460408	0.461949063	-0.27270241	-0.45481969	0.941732913	-0.34598666	-0.24324372	0.813154326	-0.34182238	0.049639642	-0.72935059
Singapore	80.48638376	-0.26764069	-1.39277745	-2.29674572	2.273695309	-0.74433192	1.265427408	1.185692818	2.148803259	-0.90994664	3.730110151	0.858800912	-0.12804151	-0.48456691	-0.56542778
Slovak Republic	0.13862609	-0.39101414	-0.57335549	1.735450589	-0.117562	-0.64110954	0.654924557	-0.38511709	0.66798716	-0.64875131	-0.40745751	3.095310064	-0.07990827	-0.61163787	-1.05438541
Slovenia	0.447748752	-0.05970529	-0.10727017	-0.25887863	-0.35193551	-0.31769615	0.002620076	0.488042338	0.544068503	-0.85139025	1.146135166	0.000933559	0.440725176	-0.31886062	-0.8873255
South Africa	0.030389685	0.067982121	0.66518154	-0.40183323	-1.12184878	-3.9808705	0.572532261	0.904438756	0.627644531	-0.2775377	-0.44063539	0.234676908	0.140873771	0.009165093	0.062256035
Spain	0.486147678	0.045527139	-0.1459871	-0.00865418	-1.054E-05	0.10833514	0.043616723	-0.20718827	0.462366775	-1.07066261	-7.24965663	0.775753967	-0.23470334	-0.42414301	-1.10711065
Sri Lanka	0.31642443	1.29239367	-0.32541855	-0.3388528	0.199740347	0.536404442	-0.13913627	0.581020081	0.424336367	-0.8464418	0.794434312	0.080274643	0.122997436	-0.08411383	-0.53983859
Suriname	-0.398604562	-0.35041764	-0.59759283	0.481396356	-0.56585409	-0.00884412	0.13975538	-0.43036025	1.282369308	-1.01111245	-43.6092366	1.550370355	-0.71731451	-0.6158401	0.759046132
Sweden	0.945458458	1.675832851	-0.10285972	-0.10786598	-0.80595706	0.212789863	2.001549368	0.626338001	0.55370108	-1.14386194	-3.341922	1.557151429	-0.6999891	-1.04985828	3.055688601
Switzerland	0.932574297	-0.36541198	-0.3501544	-0.00686086	0.257847388	0.459679308	-0.0959307	-0.30880669	2.312749816	-1.19804552	-2.43242327	-0.66386903	-3.99367204	-0.68621786	-0.93912268
Syrian Arab Republic	0.038461538	-1.78	-1.04350176	-45.4183511	-0.23524723	0.633232237	0.384478841	-0.61016895	3.029297778	-0.81449115	0.505501102	0.080899836	6.721655763	-1	
Tajikistan			-0.68257619	0.330898895	-0.56193646	-0.00700544	0.41158496	0.313485347	0.556797303	-0.684999	-0.00444614	0.93650954	-0.5309381	-0.14088427	0.218534623
Thailand	4.591223165	0.021947472	-0.57139027	1.587590303	0.529165264	0.64556853	0.021387063	-0.51664618	1.439611683	-1.1546526	-4.84004568	0.172805813	-0.20843653	-0.27530381	-0.13261303
Trinidad and Tobago	0.03381003	0.55724608	-0.25043913	-0.08167412	-0.02349891	0.847223797	0.211660717	-0.05224921	0.523910912	-0.41995948	0.511761022	-0.51587488	0.813205484	-0.43848171	0.093195723
Tunisia	0.101178608	-0.33047699	0.371949335	-0.0031019	0.339043768	-0.4444849	1.225465235	-0.23916349	0.440254395	-0.28367581	0.25290844	-0.197506	0.4497953	0.12853493	-0.14845265
Turkey	-0.153422268	-0.00938138	-0.17345653	-0.51956275	-0.60197726	-0.04874256	0.173377424	-0.08763572	0.19277211	-0.40148413	0.37041693	-0.24450805	0.373877516	-0.15728152	0.181698385
Ukraine	0.243321517	-0.57597535	-0.93666419	5.838573091	0.746839896	0.499720902	-0.33288081	0.418253995	0.964864454	-0.37045501	-0.40980937	-0.15120205	-0.92851337	-1.42014573	-51.5207186
United Kingdom	-0.407973192	0.55283633	-0.00308362	0.114681978	-0.02159141	0.512427604	0.15299641	-0.01405338	0.554121066	-0.39294017	0.512029355	0.351868584	-0.37247585	-0.08300814	-0.42688173
United States	0.543334231	-0.16307653	-0.43880552	0.431304985	0.179350082	0.267256965	-0.04916451	-0.11570926	0.34579077	-1.09261187	-5.61274269	0.924852408	-0.34449125	-0.29212474	0.10744594
Uruguay	-0.158139715	-0.08490742	2.205180257	0.386993608	-0.52746478	-0.48684428	0.36167817	0.268063212	-0.03121218	-0.09690739	-0.05955354	0.212298712	0.000493046	0.058950734	0.035243561
Venezuela											0.040859852	-0.07440373	-0.19245595	0.928873508	0.529761952

Openness

Capital account openness

Capital account openness	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014
Afghanistan	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Albania	0.415630519	0.415631	0.415631	0.415631	0.415631	0.415631	0.165809	0.165809	0.165809	0.165809	0.415631	0.415631	0.415631	0.415631	0.415631
Argentina	0.758999646	0.165809	0.165809	0.415631	0.415631	0.415631	0.165809	0.249822	0.249822	0.249822	0.249822	0.249822	0	0	0
Australia	0.698749602	0.69875	0.69875	0.69875	0.69875	0.69875	0.165809	0.69875	0.69875	0.69875	0.69875	0.69875	0.759	0.81925	0.8795
Austria	1	1	1	1	1	1	0.165809	1	1	1	1	1	1	1	1
Bangladesh	0.165808752	0.165809	0.165809	0.165809	0.165809	0.165809	0.165809	0.165809	0.165809	0.165809	0.165809	0.165809	0.165809	0.165809	0.165809
Belarus	0	0	0.165809	0.165809	0.165809	0.165809	0.165809	0.415631	0.165809	0.165809	0.165809	0.165809	0.165809	0.165809	0
Belgium	0.819249749	0.8795	0.93975	1	1	1	1	1	1	1	1	1	1	1	1
Bolivia	0.750178218	0.750178	0.750178	0.750178	0.750178	0.750178	0.750178	0.689928	0.629678	0.569428	0.509178	0.448928	0.448928	0.448928	0.448928
Brazil	0.165808752	0.165809	0.415631	0.415631	0.415631	0.475881	0.536131	0.536131	0.536131	0.536131	0.475881	0.415631	0.415631	0.415631	0.415631
Bulgaria	0.226058826	0.165809	0.165809	0.226059	0.286309	0.346559	0.93975	1	1	1	1	1	1	1	1
Burundi	0.165808752	0.165809	0.165809	0.165809	0.165809	0.165809	0	0	0	0	0	0	0	0	0
Cambodia	0	0.310072	0.370322	0.430572	0.490822	0.551072	0.716881	0.716881	0.716881	0.716881	0.716881	0.716881	0.716881	0.716881	0.716881
Canada	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
Chad	0.165808752	0.165809	0.165809	0.165809	0.165809	0.165809	0.165809	0.165809	0.165809	0.165809	0.165809	0.165809	0.165809	0.165809	0.165809
Chile	0.165808752	0.759	0.81925	0.8795	0.93975	1	1	1	0.93975	0.8795	0.81925	0.759	0.69875	0.69875	0.69875
China	0.165808752	0.165809	0.165809	0.165809	0.165809	0.165809	0.165809	0.165809	0.165809	0.165809	0.165809	0.165809	0.165809	0.165809	0.165809
Colombia	0.165808752	0.165809	0.165809	0.165809	0.415631	0.415631	0.415631	0.415631	0.69875	0.415631	0.415631	0.415631	0.415631	0.415631	0.415631
Costa Rica	0.716880858	0.716881	0.716881	0.716881	0.716881	0.716881	0.716881	0.716881	0.716881	0.716881	0.716881	1	1	1	0.716881
Cyprus	0.165808752	0.165809	0.165809	0.415631	0.759	0.81925	0.8795	0.93975	1	1	1	1	0.689928	0.629678	0.8795
Czech Republic	0.475880593	0.81925	0.8795	0.93975	1	1	1	1	1	1	1	1	1	1	1
Denmark	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
Dominican Republic	0.120500132	0.06025	0.06025	0.448928	0.448928	0.69875	0.759	0.81925	0.8795	0.8795	0.93975	0.93975	0.8795	0.81925	0.81925
Ecuador	0.415630519	0.415631	0.415631	0.475881	0.81925	0.8795	0.93975	1	1	0.93975	0.8795	0.569428	0.509178	0.448928	0.448928
Egypt	0.834191203	1	1	0.716881	1	1	1	1	1	0.93975	0.8795	0.81925	0.509178	0.165809	0.165809
El Salvador	1	1	1	1	1	1	1	1	1	0.93975	0.8795	0.81925	0.759	0.69875	0.69875
Fiji	0.165808752	0.165809	0.165809	0.165809	0.165809	0.165809	0.165809	0.165809	0.165809	0.165809	0.165809	0.165809	0.165809	0.165809	0.165809
Finland	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
France	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
Gabon	0.165808752	0.165809	0.165809	0.165809	0.165809	0.165809	0.165809	0.165809	0.165809	0.165809	0.165809	0.165809	0.165809	0.165809	0.165809
Germany	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
Ghana	0.165808752	0.165809	0.165809	0.165809	0.165809	0.165809	0.165809	0.165809	0.165809	0.165809	0.165809	0.165809	0	0	0
Greece	0.750178218	0.750178	1	1	1	1	1	1	1	1	1	1	1	1	1
Guatemala	0.716880858	1	1	1	1	1	1	1	1	1	1	1	1	1	1
Haiti	0.698749602	0.69875	0.69875	0.759	0.81925	0.8795	0.93975	1	1	1	1	1	1	1	1
Honduras	0.415630519	0.415631	0.415631	0.415631	0.415631	0.415631	0.415631	0.415631	0.69875	0.415631	0.165809	0.165809	0.165809	0.165809	0.165809
Hungary	0.415630519	0.759	0.81925	0.8795	0.93975	1	1	1	1	1	1	1	1	1	1
Iceland	0.698749602	0.69875	0.69875	0.69875	0.69875	0.69875	0.69875	0.69875	0.165809	0.165809	0.165809	0.165809	0.165809	0.165809	0.165809
India	0.165808752	0.165809	0.165809	0.165809	0.165809	0.165809	0.165809	0.165809	0.165809	0.165809	0.165809	0.165809	0.165809	0.165809	0.165809
Indonesia	0.698749602	0.69875	0.69875	0.69875	0.69875	0.69875	0.69875	0.69875	0.69875	0.69875	0.69875	0.415631	0.415631	0.415631	0.415631
Iraq	0.165808752	0.165809	0.165809	0	0	0	0	0	0	0	0	0	0	0	0
Ireland	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
Italy	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
Japan	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
Jordan	0.939749897	1	1	1	1	1	1	1	1	1	1	1	1	1	1
Kazakhstan	0.165808752	0.165809	0.165809	0.165809	0.165809	0.165809	0.165809	0.165809	0.165809	0.165809	0.165809	0.165809	0.165809	0.165809	0.165809
Kenya	0.698749602	0.69875	0.69875	0.69875	0.69875	0.69875	0.69875	0.69875	0.69875	0.69875	0.69875	0.69875	0.69875	0.69875	0.69875
Korea	0.415630519	0.415631	0.415631	0.415631	0.415631	0.415631	0.415631	0.415631	0.475881	0.536131	0.596381	0.656631	0.716881	0.716881	0.716881
Kuwait	0.698749602	0.69875	0.69875	0.69875	0.69875	0.69875	0.69875	0.69875	0.69875	0.69875	0.69875	0.69875	0.69875	0.69875	0.69875
Kyrgyz Republic	0.819249749	0.759	0.69875	0.69875	0.69875	0.69875	0.69875	0.759	0.81925	0.81925	0.81925	0.81925	0.343369	0.283119	0.283119
Laos	0.249821752	0.249822	0.249822	0.165809	0.165809	0.165809	0.165809	0.165809	0.165809	0.165809	0.165809	0.165809	0.165809	0.165809	0.165809
Latvia	0.939749897	0.93975	0.93975	1	1	1	1	1	1	1	1	1	1	1	1
Libya	0	0.165809	0.165809	0.165809	0.165809	0.165809	0.165809	0.165809	0.165809	0.165809	0.165809	0.165809	0.165809	0.165809	0.165809
Lithuania	1	1	1	1	1	1	1	1	0.93975	0.8795	0.81925	0.759	0.69875	0.69875	0.69875
Luxembourg															
Macedonia	0.165808752	0.165809	0.448928	0.448928	0.448928	0.448928	0.448928	0.448928	0.448928	0.448928	0.448928	0.448928	0.448928	0.448928	0.448928
Malawi	0.165808752	0.165809	0.165809	0.165809	0.165809	0.165809	0	0	0	0	0	0	0	0.165809	0.165809
Malaysia	0.415630519	0.415631	0.415631	0.415631	0.415631	0.415631	0.415631	0.415631	0.69875	0.415631	0.165809	0.165809	0.165809	0.165809	0.415631
Malta	0.165808752	0.165809	0.165809	0.165809	0.509178	0.81925	0.8795	0.93975	1	1	1	1	1	1	1
Mauritania	0.165808752	0.165809	0.165809	0.165809	0.165809	0.165809	0.165809	0.165809	0.165809	0.165809	0.165809	0.165809	0.165809	0.165809	0.165809
Mauritius	0.716880858	0.716881	0.716881	1	1	1	1	1	1	0.93975	0.8795	0.81925	0.759	0.69875	0.69875
Mexico	0.698749602	0.69875	0.448928	0.448928	0.69875	0.69875	0.69875	0.69875	0.69875	0.69875	0.69875	0.69875	0.69875	0.69875	0.69875
Mongolia	0.698749602	0.69875	0.69875	0.69875	0.69875	0.69875	0.69875	0.69875	0.759	0.653441	0.713691	0.773941	0.834191	0.834191	0.834191
Morocco	0.165808752	0.165809	0.165809	0.165809	0.165809	0.165809	0.165809	0.165809	0.165809	0.165809	0.165809	0.165809	0.165809	0.165809	0.165809
Mozambique	0.165808752	0.165809	0.165809	0.165809	0.165809	0.165809	0.165809	0.165809	0.165809	0.165809	0.165809	0.165809	0.165809	0.165809	0.165809
Myanmar	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Nepal	0.165808752	0.165809	0.165809	0.165809	0.165809	0.165809	0.165809	0.165809	0.165809	0.165809	0.165809	0.165809	0.165809	0.165809	0.165809
Netherlands	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
Oman	0.750178218	0.750178	0.750178	1	1	1	1	1	1	1	1	1	1	1	1
Pakistan	0.165808752	0.165809	0.165809	0.165809	0.165809	0.165809	0.165809	0.165809	0.165809	0.165809	0.165809	0.165809	0.165809	0.165809	0.165809
Paraguay	0.750178218	0.750178	0.750178	0.750178	0.750178	0.750178	0.750178	0.750178	0.689928	0.629678	0.569428	0.509178	0.448928	0.448928	0.448928
Peru	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
Philippines	0.44892785	0.448928	0.448928	0.448928	0.448928	0.448928	0.448928	0.448928	0.448928	0.448928	0.165809	0.165809	0.165809	0.165809	0.448928
Poland	0.165808752	0.165809	0.448928	0.448928	0.448928	0.448928	0.448928	0.448928	0.448928	0.448928	0.448928	0.448928	0.448928	0.448928	0.448928
Portugal	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
Qatar	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
Romania	0.165808752	0.165809	0.448928	0.509178	0.81925	0.8795	0.93975	1	1	1	1	1	1	1	1
Russian Federation	0.249821752	0	0.415631	0.415631	0.415631	0.415631	0.415631	0.415631	0.415631	0.475881	0.536131	0.596381	0.656631	0.716881	0.716881
Saudi Arabia	0.698749602	0.69875	0.69875	0.69875	0.69875	0.69875	0.69875	0.69875	0.69875	0.69875	0.69875	0.69875	0.69875	0.69875	0.69875
Serbia															
Singapore	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
Slovak Republic	0.165808752	0.165809	0.165809	0.448928	0.448928	0.509178	0.569428	0.629678	0.689928	0.750178	0.750178	0.750178	0.750178	0.750178	0.750178
Slovenia	0.698749602	0.69875	0.69875	0.759	0.81925	0.8795	0.93975	1	0.93975	0.8795	0.81925	0.759	0.69875	0.69875	0.69875
South Africa	0.165808752	0.165809	0.165809	0.165809	0.165809	0.165809	0.165809	0.165809	0.165809	0.165809	0.165809	0.165809	0.165809	0.165809	0.165809
Spain	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
Sri Lanka	0.44892785	0.448928	0.448928	0.448928	0.448928	0.448928	0.448928	0.448928	0.448928	0.448928	0.448928	0.448928	0.448928	0.165809	0.165809
Suriname	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Sweden	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
Switzerland	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
Syrian Arab Republic	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Tajikistan	0.165808752	0.165809	0.165809	0.165809	0.165809	0.165809	0.165809	0.165809	0.448928	0.165809	0.165809	0.165809	0.165809	0.165809	0.165809
Thailand	0.415630519	0.415631	0.415631	0.415631	0.415631	0.415631	0.415631	0.165809	0.415631	0.165809	0.165809	0.165809	0.165809	0.165809	0.165809
Trinidad and Tobago	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
Tunisia	0.165808752	0.165809	0.165809	0.165809	0.165809	0.165809	0.165809	0.165809	0.165809	0.165809	0.165809	0.165809	0.165809	0.165809	0.165809
Turkey	0.165808752	0.165809	0.165809	0.165809	0.165809	0.165809	0.165809	0.165809	0.448928	0.448928	0.448928	0.448928	0.448928	0.448928	0.448928
Ukraine	0.165808752	0.165809	0.165809	0.165809	0.165809	0.165809	0.165809	0.165809	0.165809	0	0	0	0	0	0
United Kingdom	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
United States	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
Uruguay	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
Venezuela	1	1	0.406809	0.406809	0.406809	0.406809	0.18075	0.18075	0.1205	0.06025	0	0	0	0	0

Trade openness

Trade openness	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014
Afghanistan			97.6744227	137.901039	121.135819	104.862401	100.555349	76.1737611	73.0655202	56.9068174	54.9673281	50.3012221	44.6592478	56.0656699	52.3415772
Albania	55.9204287	57.4303612	63.9342407	65.4406219	66.3578254	70.2953012	73.4550492	82.8724226	77.4517111	75.0949053	76.5434715	81.2185485	76.5101735	75.8737825	75.4078339
Argentina	22.6225023	21.8524229	41.7527513	40.6446897	40.6926461	40.551271	73.4550492	40.9451706	40.4026734	34.0571269	34.9710133	35.206155	30.5265424	29.333929	28.4067936
Australia	41.0476365	44.3840934	41.574363	40.3128544	37.1562923	39.3146159	73.4550492	42.1075524	42.9277976	45.8649831	40.7163845	41.9779398	43.2870791	41.2735791	42.5798483
Austria	85.3604956	87.5366648	86.948168	86.3873824	90.7923457	94.0338057	73.4550492	100.733254	102.073683	87.062231	99.0197962	105.102789	105.152177	104.066414	103.528973
Bangladesh	29.3217144	32.0980171	28.9673807	27.6578849	26.8582341	34.3969349	38.1119244	39.9423827	42.620914	40.0927962	37.8028427	47.4208498	48.1109227	46.2964027	44.5140802
Belarus	141.609166	137.04493	131.002058	134.141852	142.13651	118.884352	124.295104	128.153878	129.599479	112.310338	115.917973	157.974255	153.085269	119.815965	110.651424
Belgium	141.079071	138.694465	135.124885	131.990313	136.037833	143.376221	147.693901	151.163622	158.908045	136.356758	151.100177	162.753666	163.994977	162.218643	164.710002
Bolivia	45.5977751	45.2278214	49.3502613	51.9678351	57.4642663	67.6419425	74.5378491	76.0619116	82.8670212	68.6270745	75.5116265	82.4803951	84.9487613	81.2309073	85.2644698
Brazil	22.6397614	26.936285	27.6183574	28.1403847	29.6782525	27.0867953	26.0416994	25.2926117	27.2575695	22.1059757	22.5174074	23.7016558	24.765305	25.5618603	24.6854058
Bulgaria	78.2943375	79.6874801	75.8540948	79.6250402	93.7806532	100.497031	111.859855	123.591902	124.844858	92.9411023	103.20733	117.761919	124.776338	129.71482	130.967946
Burundi	22.5537245	20.9640456	21.6738294	27.3763121	31.5761182	41.6468057	54.1517905	41.482312	47.4179183	49.9258729	48.0956962	47.0192046	46.41898	41.6411736	41.3070023
Cambodia	110.885295	113.743477	119.692936	123.080812	134.511417	136.83193	144.614454	138.268147	133.320259	105.138475	113.603718	113.581844	120.597438	130.046487	129.612232
Canada	82.857726	78.40632	75.7326903	69.8434395	70.1805469	69.7098434	67.9811849	66.1920444	66.9242306	58.3482469	60.0607293	62.3286224	62.3971367	61.9733949	64.0576229
Chad	51.571172	64.321908	126.350808	83.378915	101.768591	85.846745	95.9132286	84.7310239	80.2896664	77.1094644	80.3907093	80.6810749	80.5756197	72.6489158	76.6265232
Chile	59.3158221	63.1431262	63.3937255	66.3162866	69.7336634	71.6167609	73.0986511	76.4074155	80.7897734	66.3372029	69.063716	72.2056659	68.2718464	64.9734766	65.2619539
China	39.4105388	38.5273593	42.7474036	51.803988	59.5055242	62.2078929	64.4788839	62.1046171	57.4528722	44.6054277	48.8892994	50.5998314	48.1078588	46.5652348	44.8765603
Colombia	32.6670855	33.9011118	32.9826392	36.5161835	35.8634269	35.6342384	38.173942	36.3298938	38.0520614	34.2800017	33.7008464	38.6688692	38.2960978	37.6979776	37.319781
Costa Rica	86.8960087	81.1718889	80.7746067	83.6947762	85.6321209	89.6358591	90.2628521	86.9115337	86.9344296	70.1778205	68.218576	69.4510689	68.1445368	65.6183745	67.0455482
Cyprus	137.495488	131.850658	123.64148	114.006246	113.907404	111.919517	109.807671	111.275084	112.946964	102.802367	107.690873	108.788157	108.368523	115.473664	122.064762
Czech Republic	98.2331208	99.309974	91.5259818	95.0151972	113.868335	122.015259	127.632503	130.372903	124.288832	113.492769	128.967077	138.784978	147.537459	147.978174	158.726957
Denmark	82.9839507	83.9685868	84.5569398	80.8817255	82.2077807	89.399767	97.3666972	100.067861	104.828224	89.755032	94.0999798	101.24574	103.240999	103.050148	102.26392
Dominican Republic	79.3003931	70.5105678	68.7232829	84.4495032	81.3514229	61.6535587	63.7664826	61.9472307	61.3920531	50.6122826	55.9999361	58.9896659	58.3886739	56.6817561	56.1536812
Ecuador	59.4646993	50.7450572	49.3765496	47.2416307	50.6652404	56.0998297	59.7097832	62.5871384	68.0569474	52.104849	60.3032387	64.4902389	61.7511124	59.6061561	57.708169
Egypt	39.0179359	39.8104265	40.9870678	46.1796407	57.8199052	62.9526462	61.5185365	65.0778733	71.6806253	56.5534446	47.9363501	45.2556342	40.7117693	40.3730381	36.9201878
El Salvador	68.7100889	65.8907385	65.9190908	68.2369825	69.7822642	69.7157771	73.4556059	77.6210519	80.665991	66.0712062	73.5372781	79.2766292	77.6100311	79.7191592	77.1717088
Fiji	135.421932	129.399223	125.408769	128.113761	124.230711	118.250842	117.821652	110.633823	130.720399	109.25198	121.730855	128.037453	124.650023	128.532237	115.920586
Finland	74.9943124	70.2659291	69.2903722	68.0376594	70.9913741	76.6277139	82.1827893	83.1759422	86.5118656	70.5312409	76.0897916	79.1699049	80.4057199	78.5136079	75.3744999
France	55.8612457	54.9593681	53.0720248	50.7978335	51.9250079	53.9807068	56.1034244	56.4207566	57.3970829	50.4624509	54.8677911	58.7905764	59.7020592	59.7640551	60.4787965
Gabon	101.701929	83.6386132	84.7590815	80.3026082	81.7675371	83.9495998	88.6494093	85.1324792	88.9988685	83.503701	89.1569992	90.4971101	92.34244	90.6357517	73.521133
Germany	61.3899966	61.9777966	60.7730085	61.5191344	65.8561098	70.4211903	77.0821686	79.3705311	80.9449046	70.6650463	79.3030782	84.7477359	85.8747544	84.8364258	84.4856725
Ghana	116.04843	110.045854	97.4892432	97.2871457	99.6703343	98.1715141	65.9214438	65.3543223	69.5142256	71.5947385	75.3778158	86.2954539	93.1680351	81.6523326	88.4514118
Greece	58.4156775	56.1399693	50.3489963	48.1900537	49.8984416	50.9008641	52.8502386	57.5243742	59.3297157	47.7438465	52.8290979	57.84462	61.8177666	63.5191424	67.1494537
Guatemala	49.1455879	69.5445492	66.03186	65.9596499	69.0781172	66.0486551	66.8181865	67.8984974	64.1252438	57.1059792	62.1148985	63.9839143	60.9825118	58.5485125	56.7179151
Haiti	46.1098221	48.5029172	48.1282171	63.7527347	58.1200539	56.9797959	59.5176983	53.9375767	56.3043218	58.2843064	80.0911774	76.4239535	70.0680666	70.5462297	71.250016
Honduras	120.392165	115.943072	117.997454	122.248277	135.461759	136.489768	133.131835	135.070635	135.748955	96.905006	109.441838	122.216903	121.188216	116.306049	112.975097
Hungary	136.990372	130.697898	117.951385	116.428384	122.982849	127.353678	149.052826	155.200085	158.207963	144.78139	158.352698	167.388044	166.125856	164.343533	168.92383
Iceland	71.9267628	75.6202179	70.2022384	68.875713	70.6590239	73.1219531	79.4049604	75.8070562	84.5848558	89.9819069	96.7285984	104.762224	107.41967	102.405224	99.5387554
India	27.1923455	26.2748446	29.8283311	30.9237436	37.910265	42.4853065	46.5920287	46.1586676	53.7633726	46.7770261	49.6888913	55.62388	55.7937217	53.8441319	48.9221857
Indonesia	71.4368759	69.7932075	59.0794618	53.6164937	59.7612948	63.9879359	56.6571268	54.82925	58.5613996	45.5121214	46.7012739	50.1800132	49.5828983	48.6373727	48.0801756
Iraq	125.336596	126.780256	119.762048	154.234525	120.233977	115.74254	89.6505205	74.092853	81.0555437	78.6873788	73.4974796	72.1713282	73.5489783	75.6877193	78.2873538
Ireland	175.139937	175.027333	163.770868	146.550761	146.697659	148.27792	149.957458	153.293916	159.635388	173.001742	189.590171	187.53473	196.609118	193.290657	208.170881
Italy	50.4745187	50.2082239	48.198417	46.2686387	47.5436436	49.4138148	53.2922748	55.2136472	54.7180077	45.6091167	52.3455974	55.5829876	56.1848797	55.4665898	55.759769
Japan	19.8196527	19.7981281	20.6856114	21.5831294	23.9223565	26.5154938	30.3317816	33.0938885	34.3990204	24.4908999	28.6130077	30.393003	30.6361237	34.1475223	37.5457698
Jordan	110.33367	109.284378	114.123441	115.706459	135.001084	147.539086	142.341761	146.622735	145.308331	115.530867	117.285882	121.513903	120.511437	114.30582	113.071382
Kazakhstan	105.699693	92.8490685	94.0316856	91.4633324	96.4091997	97.762503	91.4535268	92.1616331	94.2948046	75.7660675	74.1382659	73.1178571	73.7237325	65.4076093	64.9720347
Kenya	53.3090444	55.946836	55.1726723	54.1322659	59.4770033	64.4788662	55.2364851	53.8947888	57.5785986	50.8636416	54.2268646	60.4464994	57.8546544	53.1329928	51.2983047
Korea	67.947192	63.9110626	60.1537079	63.3929955	72.7610863	71.1843142	73.55135	77.2430074	99.9335622	90.4126376	95.6540858	110.000053	109.886198	102.770746	95.2972227
Kuwait	86.6205713	86.8423512	81.2251933	86.5563889	89.2961123	92.243462	89.7115711	91.7313772	92.6829884	88.8640987	97.0280328	99.1164764	101.011449	97.6067023	100.036945
Kyrgyz Republic	89.4306265	73.747112	82.9208566	83.9325777	93.8157013	95.0840046	120.749982	137.058388	146.106082	133.379153	133.23285	136.17984	139.675938	134.026786	125.126181
Laos	68.8373014	65.8994369	67.2549029	60.5720959	66.0797516	71.7926463	81.9613754	79.2126289	81.8491821	76.9308262	84.7203379	91.6986959	98.1851264	98.1791466	99.0597383
Latvia	81.7529078	86.4939768	83.2986585	84.7807483	93.713351	100.833398	100.6186	95.9230193	92.001379	86.8264215	108.788987	120.611251	127.065799	124.15811	122.927194
Libya	45.2810938	43.1734496	78.859757	90.6127305	96.1293321	90.8608897	101.859331	102.224151	101.489332	102.058072	107.702459	99.6209892	114.368829	135.261705	138.897612
Lithuania	83.2742947	93.5501806	100.359882	98.1259502	101.73061	114.916939	121.504193	113.841429	125.849417	105.558582	132.561782	152.541265	162.386066	166.873793	160.129279
Luxembourg	271.950966	271.344449	258.843148	254.101052	281.208394	297.772974	320.598262	332.504849	343.561828	295.972806	316.1614	323.449607	341.862022	349.241939	382.291462
Macedonia	80.1601474	71.4778144	71.5338714	71.0693205	80.8701289	85.8410035	92.5516665	106.093234	111.570055	87.1769949	97.8810691	113.192126	112.215049	104.85723	112.537929
Malawi	60.9386355	67.1184037	41.9008378	50.8424494	51.4662417	57.4479844	54.3599683	56.4441653	61.965769	51.6830725	57.64752	48.7878598	67.8815961	78.2691066	73.3266119
Malaysia	220.40735	203.364636	199.356492	194.19489	210.373822	203.854461	202.577654	192.466108	176.668592	162.559047	157.944765	154.937685	147.841755	142.720991	138.312231
Malta	245.862249	218.660677	218.852909	214.57234	208.257314	211.188036	250.284993	258.50977	297.20169	296.97488	307.421774	318.378213	325.863123	307.851743	285.291931
Mauritania	75.2646226	76.0274888	70.6054635	68.26191	92.2583388	113.204789	98.4405619	103.006899	112.988422	97.7018882	111.920207	118.619926	132.493886	121.867187	104.925741
Mauritius	123.33004	130.990541	120.601714	112.065528	110.413593	125.713037	127.062862	120.876451	115.489316	104.429729	113.457074	117.538946	119.50012	109.969737	113.292796
Mexico	52.4326817	47.166073	46.6979147	50.2056895	58.4243215	62.3591238	56.0927246	56.7952794	57.7770322	55.9677691	60.7603192	63.46968	65.7672441	63.7648769	64.9724981
Mongolia	121.88661	115.818327	118.517253	120.299394	131.329318	122.38146	112.929983	117.880426	121.198013	107.813757	103.350032	126.999229	109.588564	100.311989	109.322312
Morocco	59.1618268	59.4180039	60.5340864	58.3277427	61.5965335	67.9148545	71.4962868	78.4871743	85.6728209	67.9151029	75.2476345	83.4268002	85.1249173	80.0205586	81.1770323
Mozambique	52.3962282	55.4175539	80.4161411	76.5095523	77.2053437	76.3677483	71.2017809	70.7494726	68.5106464	71.246745	77.7315432	88.3344631	110.8298	114.375942	118.12263
Myanmar	1.16569558	0.91731027	0.51120352	0.36595963	0.32785697	0.27389389	0.24794577	0.21768664	0.18310359	0.16741764	0.17500317	0.20036651	22.3846156	38.580759	42.2588122
Nepal	55.710589	55.7998637	46.2307185	44.2478836	46.1472867	44.0629475	44.7619878	44.579275	46.0362064	47.0794478	45.9849058	41.8282546	43.6582067	48.1460002	52.2551957
Netherlands	126.451979	120.986541	114.710385	112.65476	119.148221	124.553847	129.825867	131.721889	134.658608	118.980471	135.545009	146.173217	154.270852	153.324407	154.288485
Oman	79.5936325	81.0369954	77.018425	82.5539179	90.2474374	89.3398042	87.8367518	96.4725803	95.6610485	85.2821508	106.861807	115.782668	105.326415	116.554099	104.234939
Pakistan	28.1296073	30.3715338	30.5376299	32.8444957	30.3001287	35.25329	35.6817297	32.9904286	35.5942015	32.0718483	32.8689266	32.9399051	32.8055022	33.3335987	30.9012446
Paraguay	85.0851406	80.7388793	90.1581977	94.8602359	95.5912704	104.203887	107.770004	103.518362	103.545626	96.2996073	106.584879	102.822612	98.6284003	94.3876964	88.0707726
Peru	35.5380322	35.0644014	35.2491813	37.6246103	41.9360783	47.3573175	51.785056	55.6881133	58.4337674	48.1119296	51.6728089	55.9882803	52.6198953	49.7767028	46.7852463
Philippines	104.729856	98.9089405	102.435077	101.849333	102.642518	97.8785524	94.9408282	86.61941	76.282266	65.590384	71.4194903	67.6979166	64.8994438	60.2452893	61.4716321
Poland	60.7907024	58.0751947	60.9244563	69.4373057	71.213167	70.2749609	77.7913937	80.6620046	80.7544541	75.2259133	82.1083264	87.0827228	89.3274621	90.6918664	93.7329374
Portugal	67.4233901	65.0640678	62.1610538	60.4382672	62.7629807	62.5718057	68.0730362	69.6530798	71.9633281	61.0822773	67.3048494	72.8638806	75.9289615	78.0273443	79.959756
Qatar	89.6126597	94.9686717	88.4697236	90.1649487	90.3724288	94.7455442	98.5709193	96.1141057	89.4328417	80.144163	86.07029	98.7216351	105.746286	102.383154	99.0343139
Romania	70.7125043	73.4969643	76.049204	76.5125067	80.2141609	75.9276433	76.052631	70.7784996	65.4163425	59.3155862	71.3138295	79.6863124	79.9016674	80.2721756	82.8234679
Russian Federation	68.0943386	61.1107384	59.7076742	59.128269	56.5818524	56.7132485	54.7334019	51.7061433	53.3825297	48.4350842	50.3555503	47.9011	47.1095521	46.1933553	47.698943
Saudi Arabia	68.1664514	63.5606286	64.5927792	69.831196	75.0828367	81.9540759	89.9446047	94.8633171	96.1026309	84.8583416	82.5498277	85.5435203	83.5118037	82.7090572	80.640471
Serbia	24.170327	60.1871907	59.3705466	61.5130557	74.8527161	74.2800727	80.8655866	81.0271654	83.2558676	69.5913313	80.8540021	83.3496412	90.5249537	93.1096671	97.5988658
Singapore	366.070887	352.749226	354.292082	382.839751	406.482178	422.648368	430.391637	398.745769	441.603807	360.93208	373.444532	379.684263	370.686066	365.693162	359.253855
Slovak Republic	110.699432	123.61564	122.196135	126.282995	140.161824	148.679397	166.0311	167.670855	162.92093	136.701527	154.12306	171.007873	179.193879	183.405464	180.278818
Slovenia	103.679123	104.538694	103.327149	102.108467	111.377109	119.797481	129.438621	136.491964	134.144353	112.616537	127.14133	138.912301	142.031251	143.474868	144.227959
South Africa	51.437774	54.8016334	59.7646363	51.4018311	51.0780341	53.1491154	60.2772643	63.6830873	72.8653902	55.4182616	55.9889928	60.1126317	60.8996994	64.2417598	64.4345011
Spain	60.2378337	58.0741586	54.9828637	53.1113716	54.2124631	54.3351036	55.659273	57.4064565	55.7579341	46.4972031	52.3435729	58.0860928	59.9311416	61.1796122	62.9964734
Sri Lanka	88.6364417	80.8986015	76.3351318	75.3362473	79.4829449	73.603973	71.2611785	68.6065117	63.3690436	49.1491415	46.3638904	54.9845784	51.4920819	49.2577922	50.2508827
Suriname	52.9277795	77.9985447	58.3795647	65.299235	74.2209863	75.5788367	113.183361	101.377	109.166839	87.9206618	90.9613941	115.083392	109.815018	103.403804	97.8720944
Sweden	82.3274062	81.2762042	77.8635623	76.1481277	79.2938257	84.5739697	88.7894831	89.5397799	93.3591313	83.1433029	86.902847	88.6615269	87.7150185	83.0936768	85.7506528
Switzerland	98.105597	96.1637043	91.1530342	89.5299015	93.9925535	100.329814	104.517837	111.310847	114.779395	106.930167	117.252177	122.496173	123.682364	131.796551	116.860116
Syrian Arab Republic	63.9714341	64.6133319	68.6138786	62.0390946	79.8662867	82.0125178	78.227868	76.476476							
Tajikistan	199.675021	146.354099	141.553378	136.866468	128.223091	79.7956302	80.3479727	89.2995006	88.508367	69.6709717	73.4928583	79.7841013	82.7398785	73.037479	53.9118774
Thailand	121.297884	120.267696	114.969743	116.692838	127.412075	137.853903	134.086771	129.873141	140.436968	119.269555	127.250452	139.675555	138.499319	133.40665	131.800584
Trinidad and Tobago															
Tunisia	82.4559258	89.5519191	85.3416572	82.3901078	86.9482937	90.2512479	93.9378509	104.075472	115.396126	94.3691928	105.756607	105.894356	108.004901	104.805567	102.154351
Turkey	42.0005975	49.3988333	47.4605388	45.6014718	48.1196828	45.4371411	48.1511087	47.2895853	49.9063225	45.9324743	45.8992169	52.6629411	52.2453098	50.3503245	51.4141042
Ukraine	119.858294	109.294774	105.793809	112.932776	114.90903	102.119143	96.0955834	95.2066721	101.834385	94.4247792	98.1400774	106.241812	91.787745	95.1496658	100.691782
United Kingdom	51.5308994	51.7804846	50.3423224	49.4715731	49.5113698	51.9389982	55.8255064	52.2020871	56.4678941	54.4446813	59.0339628	62.560013	61.4442582	61.350064	58.4999853
United States	24.9831815	22.8031363	22.1496597	22.4505872	24.2949205	25.5006634	26.8736222	27.9589311	29.9414101	24.7658273	28.1824523	30.8851647	30.7146275	30.226258	30.1636616
Uruguay	36.7137382	36.3095126	40.0290673	51.7591996	61.4766881	58.8776963	61.9715745	59.2104478	65.208095	53.3944193	51.6990372	53.247034	55.0611542	49.7178465	49.0876241
Venezuela	47.8572216	42.141268	48.5757106	50.5770074	55.3674556	60.1273298	58.6655916	56.1990955	51.8290124	38.5209297	46.1368935	49.6381216	50.4035674	54.2777613	48.0908135

Current account balance

Current account balance	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014
Afghanistan									-2.60356143	-5.9164949	-9.44188986	-13.9709632	-26.5336431	-27.8051986	-19.1088724
Albania	-4.303362073	-5.35367921	-9.1885631	-7.0787981	-4.89312405	-7.00462023	-7.46059088	-10.7542447	-15.6324064	-15.367835	-11.3685152	-12.9259976	-10.2037268	-9.27437506	-10.7722468
Argentina	-3.159922377	-1.40694789	8.970784678	6.379906802	1.950583243	2.653631422	-7.46059088	2.103616039	1.499401416	2.178566962	-0.3831187	-1.00727104	-0.39159512	-2.37749567	-1.74400212
Australia	-3.731565465	-2.11174505	-4.05646993	-6.285238	-6.74728941	-6.25762827	-7.46059088	-7.53119841	-4.95177936	-5.27805069	-3.90769796	-3.18667205	-4.17794803	-3.04204339	-2.88863936
Austria						1.976440946	-7.46059088	3.794994532	4.486714126	2.573293913	2.928978149	1.576001227	1.500468158	1.94798961	2.395417098
Bangladesh	-0.573042663	-0.99168723	1.350868305	0.218816448	-0.42802275	0.731114941	1.66538338	1.076211925	1.01077433	3.470143475	1.82904182	-0.12581245	1.931300818	1.372402981	0.437162723
Belarus	-3.604499966	-4.28011087	-2.23170099	-2.55836515	-5.14985258	1.518162635	-3.75571865	-6.65342977	-8.16065792	-12.4622218	-14.4700098	-8.18115429	-2.83504163	-10.0192003	-6.63297208
Belgium			4.485561214	3.382440701	3.080612152	1.98846365	1.841111939	1.492370127	-0.82632341	-1.08166251	1.649748331	-1.04109899	-0.04714281	-0.30238627	-0.87947361
Bolivia	-5.315010171	-3.36559913	-4.45175568	0.935306543	3.846826328	6.518317082	11.50443039	12.1282312	11.95070328	4.691697622	4.446626282	2.241806892	7.273677894	3.437720623	1.728712871
Brazil	-3.696027861	-4.15010361	-1.50338451	0.748189047	1.753668754	1.568436764	1.229774348	0.111001537	-1.6624375	-1.45802783	-3.42979003	-2.94206681	-3.00417652	-3.02647743	-4.24192152
Bulgaria	-5.349994841	-5.71661098	-1.96012586	-4.87142184	-6.43780796	-11.2934575	-17.1790523	-25.7523668	-21.8259932	-8.20347123	-1.90598477	0.474569008	-0.98068712	1.217100366	0.176884329
Burundi	-5.762588874	-4.18720201	-0.39799008	-3.04630146	-3.53655815	-0.51001326	-10.4886467	-8.20800913	-16.0927464	-9.26441555	-14.8496364	-12.0384189	-10.5629689	-9.52030727	-12.7103331
Cambodia	-3.700285834	-2.20577097	-2.50481147	-5.01128424	-3.42672851	-4.87829681	-3.21486673	-4.900085	-7.92100311	-7.1277204	-4.78709424	-5.96261963	-8.19227915	-13.0299379	-9.82166005
Canada	2.492257634	2.140065804	1.651652181	1.169054286	2.271361149	1.875507903	1.367646989	0.75431077	0.205246492	-2.97100625	-3.60468283	-2.78023477	-3.60127523	-3.22610235	-2.40021118
Chad															
Chile	-1.152730154	-1.5499142	-0.8318073	-0.29373795	2.843629857	1.483859578	4.525042817	4.275776117	-3.72889127	1.867873232	1.404238627	-1.61901084	-3.91981212	-4.03651604	-1.6455214
China	1.693848601	1.299167957	2.408758466	2.593019028	3.525766041	5.79092165	8.424125738	9.94269568	9.146360728	4.760445721	3.898134461	1.797237293	2.516097856	1.542630238	2.251843146
Colombia	0.833488258	-1.05668506	-1.32994075	-0.99908233	-0.66795176	-1.29010104	-1.78931143	-2.900872	-2.64799304	-1.98827094	-3.04237232	-2.92244144	-3.07458495	-3.28873822	-5.22694541
Costa Rica	-4.579113185	-3.2316554	-5.21106332	-5.23202325	-3.64300453	-4.31054687	-4.15353215	-5.60430737	-8.42959865	-1.83422006	-3.25709338	-5.35947239	-5.1881379	-4.88725351	-4.85014731
Cyprus	-4.792699131	-3.04948533	-3.26353159	-2.00359912	-4.74537782	-5.19086901	-6.2702268	-7.60417589	-15.1689298	-7.65719036	-11.3681271	-4.00793394	-6.09195735	-4.95348144	-4.31608593
Czech Republic	-4.362980441	-4.84655949	-5.20668481	-5.80713757	-3.74045818	-2.06170385	-2.57042744	-4.7274525	-1.87000639	-2.36190162	-3.54312723	-2.20227921	-1.52307448	-0.52811723	0.220249998
Denmark	1.377834131	2.941944749	1.937137992	3.192661093	2.363355339	4.162096432	3.344701814	1.515705946	2.946877325	3.524907287	6.537675579	6.593529547	6.254335786	7.766838966	8.880706995
Dominican Republic	-4.223390537	-2.89382783	-2.91599469	4.787624675	4.589518925	-1.30930918	-3.3775793	-4.90449578	-9.35969488	-4.76036375	-7.45328803	-7.53954503	-6.54585444	-4.09803274	-3.28494588
Ecuador	6.070706467	-2.2526093	-4.26994719	-1.19267472	-1.31019665	1.141794107	3.717630162	3.69843367	2.864681779	0.500333218	-2.27526441	-0.50455065	-0.17407434	-0.96788848	-0.51316711
Egypt	-0.972570273	-0.39782035	0.708474848	4.51410599	4.973924515	2.344631762	2.451899022	0.315453158	-0.86882189	-1.77228168	-2.05757891	-2.32366814	-2.49559049	-1.22448669	-1.94891065
El Salvador	-3.652971074	-1.2236889	-3.19917808	-5.30205131	-4.67674941	-4.22907838	-4.78478397	-7.15129211	-8.51826149	-1.77368073	-2.88821585	-5.48105099	-5.79721422	-6.90900651	-5.37320128
Fiji	-1.514484627	-4.07222792	0.854557924	-2.26726217	-9.21147456	-6.83576377	-16.309461	-11.3653395	-14.9413335	-4.32885572	-4.75898534	-5.16645511	-1.43404873	-9.71188386	-7.54541758
Finland	8.384938492	9.344167027	8.654526469	4.988668853	6.374185478	3.809711013	3.692639079	3.751685815	2.012524742	1.752928462	1.126798621	-1.75278505	-2.29856864	-2.24196239	-1.87256048
France	1.183610507	1.522520167	1.180252563	0.868392152	0.433612584	-0.00622566	0.02227404	-0.3283313	-0.96572119	-0.81996045	-0.83380794	-1.03060487	-1.2253069	-0.86733261	-1.30972902
Gabon	19.75181602	10.30886409	6.365512589	11.78790175	11.91910134	20.70128833		22.09312004	24.69350702	6.66453514	17.08510224	14.32076523	11.5169786		
Germany	-1.732648762	-0.36011295	1.912454475	1.438940538	4.471827999	4.601255126	5.704927144	6.781276636	5.620280608	5.8183735	5.64906649	6.085276818	7.023672131	6.74304451	7.43233395
Ghana	-7.754680121	-8.04280573	-1.70664808	1.332300668	-6.64524038	-10.2930226	-5.17438307	-9.60782565	-11.6641836	-7.30301254	-8.53880151	-8.95033494	-11.7113625	-11.9318612	-9.45227514
Greece	-7.545846311	-6.90200204	-6.22862275	-6.34074743	-5.60287441	-7.35852642	-10.8171992	-13.9992371	-14.4762983	-10.8827698	-10.1132321	-9.93157589	-2.51236192	-2.06223114	-1.57606247
Guatemala	-5.441464031	-6.69901846	-5.94356145	-4.74130772	-4.85869639	-4.56059239	-5.04114131	-5.2343517	-3.61268656	0.723057796	-1.3625484	-3.35469179	-2.59904374	-2.50897003	-2.09416313
Haiti	-2.888584559	-3.66751259	-2.56178233	-1.5126814	-1.76328243	0.163513097	-1.7877492	-1.4574045	-3.12764187	-1.85561401	-1.53754082	-4.30532269	-5.46433953	-6.63516401	-8.5531271
Honduras	-7.15508079	-6.32666054	-3.62145871	-6.79117987	-7.79042221	-3.14654554	-3.52944636	-9.09255298	-15.4452327	-3.81596304	-4.30278882	-7.95390046	-8.53138316	-9.52730372	-6.94518026
Hungary	-8.446562091	-5.82407239	-6.38333866	-8.00578692	-8.50241658	-6.9743203	-7.04191121	-7.11479786	-6.91849497	-0.75974465	0.264542267	0.80432894	1.711816968	3.767595054	1.454780104
Iceland	-10.23748698	-4.66929236	1.225487593	-5.00173206	-9.93191502	-15.8958511	-23.3118545	-13.864242	-24.568146	-9.71223891	-6.6194481	-5.22849912	-3.85879146	5.954679356	3.968330288
India	-0.995624909	0.294422373	1.389475977	1.463077737	0.111506096	-1.27129801	-1.01041979	-0.67235162	-2.60936983	-1.97791668	-3.29079535	-3.42928826	-5.00488898	-2.64566624	-1.33950833
Indonesia	4.843064528	4.301048531	3.998526908	3.453042877	0.60856133	0.097088247	2.978708691	2.427264127	0.024693325	1.969770562	0.681277284	0.188703953	-2.6602736	-3.18996483	-3.08816908
Iraq						-6.67682378	4.116346194	17.46884419	21.60892697	-1.01064961	4.684127574	14.06516673	13.55085613	9.627298904	10.41038553
Ireland						-3.37839014	-3.3861837	-5.13135876	-5.56210885	-2.11643224	1.04468248	1.183074325	4.098572975	6.031073161	3.453847839
Italy	0.058799928	0.525146455	-0.26690718	-0.59226632	-0.35932527	-0.91884224	-1.47998583	-1.38555017	-2.79609172	-1.84523106	-3.43602634	-2.99720306	-0.35333918	1.011070128	1.874729375
Japan	2.673963137	2.003463089	2.645400239	3.135205583	3.779607964	3.577456571	3.855589958	4.689329844	2.820931278	2.78468846	3.875161124	2.104710269	0.969126782	0.899555493	0.749450928
Jordan	0.326004804	-0.26773356	5.231501912	11.75529721	0.343476771	-18.0419051	-11.4627543	-16.8006655	-9.34850009	-5.21907472	-7.12174602	-10.2496193	-15.2283513	-10.4301053	-7.27951984
Kazakhstan	2.002567633	-6.27244898	-4.15780313	-0.88419905	0.777323159	-1.81363177	-2.46891955	-7.98501994	4.683777822	-3.57369071	0.93599417	5.294510837	0.508499436	0.538170482	2.772996358
Kenya	-1.569350791	-2.46632258	-0.8949754	0.88845032	-0.81870302	-1.34655834	-1.97646895	-3.2293696	-5.5232963	-4.56087776	-5.9216668	-9.34398387	-5.28705135	-9.26864783	-9.66260077
Korea, Rep.	1.859630939	0.506554635	0.770516499	1.74533994	3.888632848	1.409005225	0.352758349	1.050567293	0.318263756	3.724581232	2.635944946	1.551464736	4.157237256	6.215371507	5.978245009
Kuwait	38.90588052	23.85620596	11.1823919	19.6845267	26.09008392	37.21697114	44.61987542	36.05175747	40.86909947	27.35809371	32.04777466	42.94415855	45.45416051	39.90143424	33.18295992
Kyrgyz Republic	-5.55488939	-1.24535161	-1.82591281	-2.19732973	1.323754693	-1.52182824	-10.0953914	-5.98596052	-13.8763704	-4.31423685	-9.89834699	-7.69730245	-15.5252395	-13.7754306	-17.4244293
Laos	-0.489256566	-3.80683722	0.470451535	-1.4681801	-7.53199402	-6.35287282	2.181034084	3.301145997	1.424412778	-1.04417124	0.411195998	-2.35821476	-4.04929092	-3.65817227	-8.88070182
Latvia	-3.662857762	-5.99579251	-5.46988587	-7.22238074	-11.6782792	-11.744758	-21.0730283	-20.8013703	-12.5933868	7.904533354	2.081215822	-3.18412237	-3.62913243	-2.71864741	-1.76972855
Libya	16.38350168	9.768377907	3.388359219	12.9522903	13.93622704	31.57339986	40.33700657	42.22732419	40.97031664	14.88315077	22.46880563	9.200160267	29.11351376	0.014655846	-46.2616445
Lithuania	-5.848731529	-4.68128994	-5.0474713	-6.79881743	-7.58348224	-7.22700477	-10.9315154	-15.515696	-13.9760345	1.6358277	-1.3134816	-4.53201899	-1.4389157	0.846307339	3.091277664
Luxembourg	11.75028677	7.772122929	8.907829495	6.581476367	11.94335532	10.99683479	9.929028417	9.80835934	7.798242655	6.899992423	6.737416716	5.973765015	5.645853431	5.606715199	5.193344082
Macedonia	-2.733072826	-6.34434073	-9.42563867	-3.75036147	-7.94700692	-2.54533579	-0.41608091	-7.26622964	-12.4707587	-6.48354444	-2.10791291	-2.49367411	-3.27478766	-1.63763886	-0.62987601
Malawi	-4.215428167	-3.49261928	-5.7410443	-7.75923925	-10.9027532	-13.8600587	-7.66835238	-9.43163519	-13.0312091	-8.78112544	-13.9270893	-14.203048	-12.3525503	-22.3990544	-18.6389063
Malaysia	9.049918491	7.853559344	7.129474025	12.14235056	12.08774831	13.9199995	16.10385018	15.38125957	16.85965181	15.72300017	10.05574471	10.90499424	5.188771398	3.466132889	4.391643422
Malta	-11.15661189	-3.45496896	2.265275674	-2.86405299	-3.8109189	-6.54109261	-7.85038361	-2.02147758	-0.86546263	-6.5384191	-4.80426941	-0.1374714	1.642948675	2.66543925	8.824673391
Mauritania													-23.4634853	-22.0424335	-27.3231009
Mauritius	-0.806111492	6.085716702	5.231200653	1.660953584	-1.75060747	-5.15534088	-8.59904947	-5.32426463	-9.76704663	-7.17474974	-10.0540448	-13.5461524	-7.09173349	-6.18547071	-5.57862066
Mexico	-2.648996074	-2.34602394	-1.92672633	-1.14419241	-0.89699314	-1.03173222	-0.38484538	-0.95935656	-1.52803819	-0.87509688	-0.49541676	-1.06004362	-1.54630472	-2.43341529	-1.82585889
Mongolia	-6.145478758	-4.86593853	-7.52987541	-6.18499667	3.162763437	3.467853645	10.9006895	4.05637173	-12.2837571	-7.45624741	-12.3162164	-43.3455182	-43.7712347	-37.6076656	-15.8208781
Morocco	-1.222065286	4.082817213	3.49671082	3.038148115	1.626074395	1.669099819	2.055969595	-0.15439584	-4.89526691	-5.35142524	-4.21079824	-7.89144815	-9.74013167	-7.34282511	-6.00398884
Mozambique						-9.84732888	-9.08832044	-8.39349053	-9.98015765	-11.237367	-16.5393098	-25.3508439	-46.7169904	-39.0380497	-34.1790311
Myanmar	-2.359569876	-2.34635995	1.41024552	-0.18239592	1.043401683	4.853790339	5.474106878	6.841285596	3.913774605	2.671665306	3.177494758	-2.60285417	-2.10158999	-0.6447397	-3.25325038
Nepal	-2.377936958	-2.74156823	3.556296775	2.847594088	1.374222036	1.883023964	1.659501804	0.054810111	5.845485641	0.166582496	-0.79746599	1.525912789	3.060406587	6.020185628	2.480756147
Netherlands	1.759591335	2.299790959	2.367474175	5.222704868	6.80560103	6.130836275	7.867559376	5.963569669	4.160925172	5.830153633	7.391339083	9.09863171	10.80234429	9.864764109	8.632377285
Oman	16.04211396	10.70554731	9.637309713	6.72020389	3.53974122	16.65768555	15.22037807	5.850399832	8.240634381	-1.03550149	7.902156635	13.01948678	10.19597874	6.591992929	5.188095781
Pakistan	-0.114938837	2.597160532	5.330064272	4.292159934	-0.83386265	-3.2932701	-4.91534342	-5.44736095	-9.20431632	-2.374882	-0.76321741	-1.03330059	-1.0437482	-1.90988122	-1.49041854
Paraguay	-3.015107551	-0.4165856	9.799280948	0.258200776	-0.1221079	-0.77285075	1.569825879	5.646753577	1.078674651	3.790007308	0.246788223	0.795667413	-1.16366714	2.14489514	-0.16408891
Peru	-2.987411373	-2.31175795	-2.02693936	-1.6150429	0.028886109	1.508810261	3.240507167	1.429314635	-4.41112078	-0.59828873	-2.56361404	-1.7408138	-2.79675593	-4.66508183	-4.43869412
Philippines	-2.749724462	-2.29471865	-0.34661787	0.339656884	1.778458906	1.931078259	5.697419917	5.404357938	0.082677949	5.018675291	3.59694027	2.517466784	2.778768647	4.187636444	3.779521013
Poland	-6.017374396	-3.12091149	-2.7904078	-2.51617088	-5.42958749	-2.60710346	-4.02989254	-6.3927593	-6.71186591	-4.06256389	-5.3982561	-5.17271844	-3.71831674	-1.2874014	-2.09912482
Portugal	-10.85511143	-10.426315	-8.45693775	-7.20048483	-8.3590167	-9.90257249	-10.6528245	-9.79450679	-12.1937659	-10.4428224	-10.1558312	-6.03628551	-1.82896149	1.590141827	0.061768519
Qatar												31.06751079	33.18472205	30.42402978	23.95924642
Romania	-3.619266247	-5.4743938	-3.3026846	-5.5305188	-8.37352135	-8.56646306	-10.45053	-13.5984833	-11.6973215	-4.77031829	-5.08732505	-5.03155458	-4.77679503	-1.08396717	-0.69313142
Russian Federation	17.47435323	10.45451417	7.96062562	7.697985735	9.908322543	11.04540057	9.325459318	5.554568632	6.257985364	4.120876763	4.423338403	4.741227001	3.225063454	1.455217099	2.786928357
Saudi Arabia	7.554444542	5.079599577	6.261984498	12.99673389	20.06861916	27.41898379	26.28445026	22.44890718	25.45652685	4.883410653	12.63727416	23.61979188	22.3871308	18.1400817	9.751857003
Serbia								-18.676897	-21.3871529	-6.56924752	-6.82171019	-10.9478655	-11.6092223	-6.139282	-5.95924865
Singapore	10.80809126	13.85819429	13.48894987	22.83185092	18.18784391	22.05709812	25.12903187	26.05860791	14.47842935	16.84851711	23.44158093	22.15018546	17.0035631	16.52118036	18.6802007
Slovak Republic	-2.384548591	-5.67512754	-5.57229779	-0.60331224	-7.60835886	-8.17448325	-7.71996882	-5.36999463	-6.25085488	-3.39315445	-4.70441837	-4.99744657	0.952396712	1.825048442	1.187557767
Slovenia	-2.691449123	0.14993734	1.034647679	-0.72632503	-2.58919092	-1.87223288	-1.75802283	-4.1884685	-5.29957371	-0.55181178	-0.11423078	0.189873269	2.141551213	4.389561663	5.794645185
South Africa	-0.139743358	0.281773705	0.872052223	-0.87960858	-2.80152952	-3.11071291	-4.44264238	-5.40783505	-5.7160751	-2.6602873	-1.46343387	-2.23538449	-5.12572982	-5.80106784	-5.07945096
Spain	-4.42799365	-4.4011959	-3.72458836	-3.86913691	-5.58891134	-7.51809419	-8.99508579	-9.67564105	-9.32993768	-4.25053913	-3.93702267	-3.16256901	-0.25596167	1.523970265	1.026487849
Sri Lanka	-6.390296944	-1.36821186	-1.42925946	-0.37454125	-3.13403115	-2.66382241	-5.29942776	-4.3302897	-9.54286394	-0.51036448	-1.89506055	-7.06911617	-5.85822718	-3.41961409	-2.5046643
Suriname						-8.00555347	8.399392451	11.05014886	9.190570221	2.871954315	14.89790978	9.753080439	3.260466996	-3.80907334	-7.944718
Sweden	4.499134313	6.237955476	4.718188664	5.91103211	5.99999193	6.061895864	8.206235302	8.184948773	7.938844919	6.032299105	5.978124217	5.582980353	5.592648774	5.235214111	4.533974506
Switzerland	11.94742257	8.133976644	8.478436182	12.79264283	14.76171206	13.59796717	14.39696658	10.06976699	2.455090329	7.577845176	14.85166478	7.885276539	10.27926289	11.30197589	8.464963983
Syrian Arab Republic	5.490043306	5.786775443	6.672149913	3.445093529	2.357801388	1.036073174	2.759440461	1.137423307							
Tajikistan			-1.23934397	-0.30651964	-2.74749589	-0.81561823	-0.75614188	-13.3099247	0.921681875	-3.62101923	-9.57586686	-7.30458026	-9.15360532	-7.7497746	-2.8276905
Thailand	7.368447491	4.240262811	3.46550654	3.133563213	1.595975319	-4.03646236	1.043806725	5.926653576	0.319466043	7.876574446	3.367322272	2.54217091	-0.42719001	-1.15650076	3.737422813
Trinidad and Tobago	6.674974882	4.713948971	0.84810922	8.70995092	13.50016207	24.2853098	38.78705977	23.87204602	30.49497767	8.515042085	18.82993519	17.08908311	12.97405916	20.35580143	14.71704373
Tunisia	-3.825645413	-3.80889073	-3.22379939	-2.66084995	-1.41666982	-0.92734834	-1.80163014	-2.35662579	-3.81493148	-2.83914509	-4.77729583	-7.39074869	-8.26164534	-8.38610298	-9.1211889
Turkey	-3.633973971	1.877634879	-0.26255292	-2.42252814	-3.50752596	-4.18414797	-5.6414006	-5.4676878	-5.15807416	-1.76191389	-3.78001008	-8.93692296	-5.48786891	-6.69507451	-4.67187519
Ukraine	4.292816485	3.483353935	7.501256809	5.786613015	10.65147039	2.94165386	-1.5025094	-3.67925759	-7.10085514	-1.48087778	-2.21743256	-6.2717704	-8.15501624	-9.01095784	-3.44260866
United Kingdom	-2.346472603	-2.14339515	-2.24426009	-1.9440851	-2.36634257	-2.06946559	-3.13138781	-3.80394745	-4.64102897	-3.87149285	-3.78912471	-2.373363	-4.24848895	-5.54398012	-5.3314972
United States	-3.922884488	-3.66879549	-4.10659463	-4.50666208	-5.14536623	-5.69162666	-5.81674736	-4.91125104	-4.62946091	-2.58359625	-2.87818293	-2.86502848	-2.6381323	-2.09414159	-2.14484959
Uruguay	-2.481340148	-2.38113491	2.807107017	-0.72441755	0.022831071	0.243497121	-2.00148967	-0.94167759	-5.69379435	-1.20427824	-1.8142	-2.74090658	-4.11087289	-3.43442845	-3.09055518
Venezuela	10.11859893	1.613454926	8.18032782	14.106567	13.80038526	17.48814417	14.42247513	5.84466291	9.905575043	0.130083715	1.420424364	5.163639685	0.678230616	1.240952356	1.0197792

Foreign direct investment (% GDP)

Foreign direct investment (% GDP)	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014
Afghanistan		0.02762357	1.21099954	1.26100537	3.53611226	4.31867447	3.37225195	1.91683279	0.39598569	0.4493273	1.19706857	0.29098006	0.27669536	0.23840673	0.20845482
Albania	3.93717707	5.10495723	3.04391445	3.09793068	4.66563777	3.21722676	3.61560378	6.09545723	9.72769682	11.1601821	9.13990129	8.13046156	7.45397251	9.81721374	8.69001368
Argentina	3.6657906	0.80616413	2.1989582	1.29481087	2.50501752	2.64935441	3.61560378	2.25129154	2.68990287	1.20643923	2.67516172	2.04464008	2.8066719	1.77920554	0.96240665
Australia	3.58837349	2.83360802	3.71528912	1.92694578	7.01215469	-3.62281698	3.61560378	5.21620085	4.29039378	3.09604627	3.07716051	4.70169935	3.72878166	3.43123966	3.13857987
Austria	4.3320203	2.99277598	0.1490935	2.71240603	1.29345298	25.7261068	3.61560378	17.7223761	1.46662356	3.57176484	-5.6152091	5.32899744	1.27486773	0.10494194	0.38751547
Bangladesh	0.52536209	0.1454439	0.09557937	0.44596078	0.68947234	1.09514982	0.63565719	0.81775442	1.4497484	0.87949454	1.06893486	0.98316653	1.18810285	1.73541854	1.46871288
Belarus	0.93272619	0.77540586	1.69313268	0.96366396	0.70773207	1.01497746	0.96632836	3.99161614	3.60068233	3.81328624	2.43505653	6.48080197	2.22820692	2.97386462	2.36252922
Belgium			6.98468141	10.8287262	11.9754594	8.69561393	14.3547589	20.4713015	36.7399153	17.8572856	23.056704	29.9859641	1.34234394	-5.44707652	-4.50874514
Bolivia	8.76825043	8.66858332	8.55789358	2.44235447	0.74577261	-2.49888003	2.45168237	2.79183787	3.07260184	2.43967815	3.16544356	3.58444215	3.91355014	5.70662211	1.98982486
Brazil	5.03412868	4.15212683	3.2653199	1.81312063	2.71638107	1.73390067	1.74949332	3.19089485	2.99066328	1.88845583	4.00440104	3.86659111	3.51317949	2.8180966	3.95683398
Bulgaria	7.61425213	5.7755352	5.55808812	9.99294705	11.8366377	13.8279036	23.071925	31.2425335	18.9246162	7.51026984	3.64137103	3.66399877	3.31727225	3.56722461	3.64439885
Burundi	1.34218325	-0.00130486			0.00488286	0.05233367	0.00248148	0.0368891	0.23784603	0.02002576	0.0385118	0.14242337	0.02446705	4.30012504	2.64242143
Cambodia	3.21674431	3.67675643	3.05685092	1.75131658	2.46197705	5.99360279	6.64242251	10.0389497	7.87468106	8.92527245	11.938522	10.1978077	13.0579537	12.2913443	10.2999222
Canada	9.20245766	3.85570017	3.23196734	0.78574625	0.14092242	2.18455942	4.88836094	8.22013291	4.52621092	1.52655464	1.84155883	2.14229221	2.70668836	3.63869409	3.562559
Chad	8.31534911	26.9030325	46.4937035	26.041297	10.5730685	-1.49462235	-3.75114725	-3.7234141	4.50284037	4.05144695	2.93684226	2.31894684	4.68782105	4.01703975	-4.85228426
Chile	6.24191817	5.91683227	3.65649517	5.32299533	6.8513514	6.06857121	4.90101893	7.76169196	10.2834877	8.03710562	7.33040295	9.57360086	11.3403308	7.4806169	9.10886482
China	3.47508225	3.51300212	3.60909988	3.48740331	3.48364111	4.55425403	4.50857902	4.3986857	3.73046895	2.56474056	3.99473193	3.69851737	2.81773886	3.0282256	2.55760031
Colombia	2.43922656	2.58844279	2.17872381	1.81707875	2.66123382	6.98347537	4.15192322	4.28402165	4.32988189	3.43619383	2.24019682	4.36676152	4.06842608	4.26347611	4.27477682
Costa Rica	4.8391298	3.90769946	4.38159096	4.50332755	5.84852703	7.66226681	7.96888576	8.38132876	7.95778774	5.28301613	5.11669874	6.46733167	5.80183713	6.44362107	6.41022688
Cyprus	8.39485045	8.9402449	9.49753964	6.23004691	6.42186733	6.21271677	9.17672628	9.53362162	8.3979824	10.9109354	53.190953	-43.4625542	198.074478	-25.0167049	-3.22935488
Czech Republic	8.0894082	8.35367739	10.3730057	2.02884047	5.3905237	10.0749157	4.58756449	7.30109989	3.73979546	2.5568019	4.90068409	1.83758141	4.54882936	3.51360685	3.89217924
Denmark	21.9380854	5.63524789	2.48030856	0.54325855	-3.50243034	4.8577011	0.84318717	3.69711475	0.62010672	1.17390208	-3.65466828	3.94150236	-4.997671	0.19801218	1.86330527
Dominican Republic	4.06910204	4.24972368	3.38414724	2.84865008	4.11799904	3.09642719	4.01061471	5.10055788	5.65015189	3.50438345	3.37180934	3.80116783	5.63142928	2.55323127	3.61053424
Ecuador	-0.12788994	2.20108486	2.74357252	2.6871311	2.28724133	1.18874606	0.57995085	0.38008425	1.71144903	0.49352278	0.2382452	0.81240598	0.64539806	0.76419091	0.75913968
Egypt	1.23699721	0.52226724	0.73636308	0.2862845	1.58957075	5.99381896	9.34352717	8.87353792	5.83141262	3.5514423	2.91728671	-0.2045329	1.00142191	1.45266806	1.50957523
El Salvador	1.47137093	2.27070415	3.71125188	1.06615184	2.64681242	3.47761567	1.5070732	9.11434695	5.02060218	2.09486447	-0.6134061	0.60393074	2.01123918	1.11559637	2.24165204
Fiji	0.035115	2.48789853	1.66466241	1.74071552	9.18856176	6.15052156	14.8399113	11.0993805	9.60841586	5.59633866	11.3407305	10.6597653	9.46594371	6.31742155	7.76178967
Finland	10.7530916	2.49301564	5.79062161	3.48601093	3.44125024	5.31991801	2.13879472	8.60861024	6.83830483	-3.50956219	4.93399786	-2.19536929	1.92158901	-1.83002632	6.32538914
France	3.03779041	3.64169108	3.44600803	2.29966694	1.68173597	3.87860969	3.4048961	3.15296343	2.33002992	0.6832222	1.47202695	1.54440538	1.22774216	1.12374195	0.20369014
Gabon	5.48675259	-2.00474145	0.02185734	1.53396129	4.04794879	3.40497732	2.59540593	5.71365426	4.901566	5.50344728	3.63311522	4.81055966	-1.28628292	4.38409758	5.76304752
Germany	12.7175615	2.91855001	2.46362017	2.60795314	-0.72518418	2.09182725	2.91234968	1.47807376	0.8241749	1.65794565	2.51832905	2.59416067	1.84719447	1.79633131	0.50836175
Ghana	3.32930338	1.68055528	0.95567378	1.79171535	1.56811419	1.35086603	3.11621916	5.5866069	9.51704251	9.13293517	7.85506708	8.20796643	7.85536788	6.75033011	8.60496255
Greece	-0.0063012	0.00146852	0.02223079	0.69702819	0.89283118	0.27845341	1.97910302	0.61465704	1.61750148	0.83714687	0.17827581	0.37946497	0.67705567	1.22796349	1.13774677
Guatemala	-4.08837714	-5.00724111	-4.89489798	0.08891723	1.34110703	1.98446406	2.1014679	2.51867998	1.91918429	1.84569038	2.04554168	2.39148659	2.50779357	2.51274893	1.98521605
Haiti	0.33511672	0.1223431	0.16416143	0.46616801	0.16677407	0.60319814	3.37664233	1.2658603	0.45506392	0.84241387	2.68778986	1.58311328	1.97713206	1.91562742	1.12803148
Honduras	4.92683334	4.09505718	3.69533123	4.79303784	6.75224552	6.21440605	6.61878769	7.87687845	8.70792526	3.389872	3.83460575	5.88680111	5.83609493	5.7786271	8.6290142
Hungary	5.80781299	7.54128649	5.38038373	4.87257139	4.36076431	7.52451509	16.2007786	50.5047521	47.4770564	-2.27204382	-15.9892195	7.4627261	8.30530838	-2.78970809	9.1967728
Iceland	1.73807879	2.00883529	0.99813845	2.96343334	5.50409294	18.534475	22.7381965	32.2335213	6.81650867	0.49125137	1.93066954	7.51362811	7.16604572	3.03960491	4.43119554
India	0.77555818	1.07066034	1.02524807	0.61408076	0.77595219	0.89867691	2.17632941	2.10036581	3.65695069	2.68753606	1.65378502	2.00206555	1.31293434	1.51627597	1.69565879
Indonesia	-2.75743993	-1.85568619	0.07415164	-0.25425632	0.73824398	2.91611484	1.34794265	1.60301057	1.82632902	0.90391942	2.02517914	2.30298429	2.30978033	2.55135633	2.81997261
Iraq					0.81904774	1.03153064	0.58796173	1.09387601	1.40996001	1.43138793	1.00796494	1.1208634	1.55962597	2.18684664	2.03785775
Ireland	25.5384193	8.77137194	23.0390772	13.641411	-5.67092096	22.2198416	9.51413717	22.2071738	8.45704372	22.8238158	17.0143762	9.90087161	18.1590219	20.8698243	33.6171817
Italy	1.15404317	1.2796766	1.35940089	1.24568766	1.11698188	1.98513205	2.93235417	2.99526654	-0.39738153	0.75849923	0.46763306	1.51314377	0.00167945	0.91671693	0.79136233
Japan	0.21868287	0.11446457	0.2808517	0.19730567	0.15633885	0.11480856	-0.05290751	0.47906838	0.48879104	0.23371396	0.13054125	-0.01381604	0.00881741	0.20653658	0.40722815
Jordan	10.7944716	3.04854753	2.48603227	5.36470927	8.20945019	15.7640635	23.5373725	15.3246917	12.8652101	10.1304588	6.38929091	5.15271417	5.00512916	5.79450575	6.0804846
Kazakhstan	7.49246612	12.7154875	10.5066924	8.05369856	13.0128589	4.45711144	9.39605365	11.4190328	12.6039325	12.3805862	5.03630628	7.14350879	6.56164821	4.23069801	3.26292706
Kenya	0.87289597	0.04083336	0.21006225	0.54841253	0.28619426	0.11320206	0.19621954	2.28124317	0.26629133	0.31402718	0.44516053	3.45722023	2.74199246	2.0306559	1.33598648
Korea	2.04927371	1.22357651	0.89900159	1.03009354	1.73810124	1.51905523	0.90550732	0.78623532	1.11627293	1.00028278	0.86773922	0.81274804	0.77656554	0.97783022	0.6570805
Kuwait	0.04322203	-0.3196154	0.0094905	-0.14017822	0.03996118	0.28949265	0.11945329	0.09729119	-0.00403794	1.05154748	1.13033983	2.11589929	1.65024907	0.82316321	0.29871637
Kyrgyz Republic	-0.17231049	0.32828619	0.29034913	2.37333635	7.93380097	1.73012021	6.42244374	5.4678727	7.33453791	4.03784406	9.86093071	11.0646447	3.95037051	8.3437573	4.59301372
Laos	1.9576039	1.35157902	0.25317689	0.96296969	0.71489505	1.01332133	5.42476149	7.66097171	4.18393739	5.46207493	3.91153219	3.43736678	2.88847908	3.57276378	6.88281452
Latvia	4.08462281	2.07760776	1.67579709	2.69257321	4.11191333	4.78892986	7.94972283	8.78193257	4.02485637	-0.1237738	1.83308293	5.3164479	3.8359266	3.27057941	2.99929145
Libya	0.36843281	-0.38991424	0.70794249	0.54443783	1.07782345	2.19291998	3.75532619	6.94499613	4.71801799	2.17521264	2.38587376		1.74048645	1.07170876	0.12152818
Lithuania	3.29548081	3.61069201	4.62791682	1.15621832	3.51495008	3.2377391	6.84097411	5.77145109	3.98645662	0.04802437	2.33111629	3.53748636	1.34344329	1.52591543	1.03979877
Luxembourg			17.967121	14.5179094	14.9332603	12.4366627	75.9638341	-58.3228805	12.7433353	53.0559978	73.5326207	14.7374572	252.308107	31.7723513	34.2948181
Macedonia	5.7650587	12.658128	2.84178924	2.40668635	5.43995972	2.32207818	6.22986064	8.79828228	6.17271699	2.76045239	3.20438265	4.83981429	3.46744526	3.72036439	0.53580755
Malawi	1.49124743	1.12437861	0.16877643	2.05325569	3.10150872	3.82112033	0.88951582	2.80648526	3.67275347	0.79358618	1.39388289	10.1552326	-0.14740059	8.17844941	9.87799191
Malaysia	4.03842862	0.59702932	3.16613258	2.92094209	3.50786522	2.73439313	4.72720241	4.68688805	3.2807913	0.05669228	4.26859028	5.07443252	2.82905647	3.49430153	3.14126785
Malta	17.2585256	9.62376766	-10.6143767	16.7041259	123.099661	341.095045	370.337137	451.715545	165.279804	16.9335784	105.785197	82.05377	36.102018	5.03107651	1.37134529
Mauritania	3.0994373	5.92031374	5.08449105	6.52290906	22.0405893	37.1659225	5.08438156	4.15200801	8.61573578	-0.08369518	3.00502891	11.3665016	26.5254993	19.6708608	9.32193524
Mauritius	5.7967931	-0.61005913	0.67277274	1.11644471	0.2175916	0.66483615	1.51886535	4.18108039	3.78088837	2.8117551	4.29800264	3.76232054	5.0478548	2.41838683	3.26810555
Mexico	2.59670994	3.97248183	3.11551958	2.49864344	3.18521616	2.96511281	2.118514	3.14158094	2.90002532	2.16262576	1.98480594	2.06215642	1.47444023	3.73332964	2.35537672
Mongolia	4.72338667	3.39117272	5.57041863	8.24297737	4.66349821	7.4349957	7.18968966	8.80188703	15.0216154	13.6044846	23.5263371	43.9121116	34.7559826	16.3700755	2.76258832
Morocco	0.56807859	0.36452044	0.18742162	4.44199503	1.31998382	2.59812949	3.44692838	3.55085547	2.6660485	2.1209696	1.33090448	2.48727462	2.89209442	3.1461638	3.20835434
Mozambique	2.77486013	5.35808829	6.90816231	6.01530619	3.58183134	1.5848808	3.02140613	4.4486048	5.57989133	8.52388318	12.3933777	27.9025987	38.771052	41.8096359	29.4721112
Myanmar	2.86117768	3.21565754	2.22070503	2.37775767	2.0001629	1.95966397	1.90182128	3.5175167	2.71127181	2.92355416	1.81897202	4.20127651	2.22540065	3.74085601	3.32335345
Nepal	-0.00882426	0.34709152	-0.09837487	0.23344362	-0.00573756	0.0301563	-0.07350943	0.05560642	0.00793216	0.29771539	0.54829467	0.49711469	0.48800647	0.38526459	0.15199377
Netherlands	15.2901386	12.1853829	5.47031593	3.57441135	21.4929203	30.9462887	51.6254589	87.442593	20.8487825	11.1816847	13.836826	37.1284762	28.9228359	37.9244573	13.3674634
Oman	0.42035304	0.02674047	0.54229235	0.11540958	0.44845404	4.94937662	4.28875922	7.91753699	4.84667842	3.07063041	2.11903495	2.39800168	1.77942822	2.04263213	1.58657856
Pakistan	0.41648426	0.52275116	1.1423542	0.6414815	1.14107521	2.01000707	3.11297798	3.66832282	3.19736	1.39040227	1.13975303	0.6208231	0.38282652	0.5765108	0.76444312
Paraguay	1.31527683	1.29460058	1.42921472	-0.87582105	1.16978385	0.08357515	1.76401667	0.76115027	1.82584097	0.16894642	2.77348654	1.84860513	2.95643241	1.07908586	1.78001694
Peru	1.56479019	2.1992245	3.93562085	2.27308643	2.39489208	3.39034817	3.9106568	5.37428656	5.74335698	5.32237544	5.73082661	4.27401356	6.11900162	4.87019978	2.20857211
Philippines	1.83520659	0.99656353	2.17435111	0.58635504	0.64790626	1.61441201	2.21536628	1.95415536	0.76926807	1.2264981	0.53629079	0.89547743	1.28569245	1.37486206	2.01682578
Poland	5.43093783	2.9797199	2.05908339	2.46927714	5.43625148	3.60669456	6.22859588	5.83386773	2.73015529	3.18897736	3.83771675	3.49543778	1.47053881	0.15164974	3.62742857
Portugal	6.16201471	5.03301644	0.44383637	6.26550497	1.31984039	2.24470997	6.32822324	2.50913801	2.9851718	2.28881919	3.54832691	4.00893304	10.1570495	4.77936888	5.74344124
Qatar	1.41667543	1.68498246	3.22210544	2.65541576	3.77817958	5.61413033	5.74881211	5.89621991	3.27806417	8.30764131	3.73261156	0.55938903	0.21188871	-0.42288237	0.50449073
Romania	2.76987387	2.84157632	2.47755487	3.0801198	8.45355658	6.51836417	8.90985532	5.74255519	6.39864237	2.68677093	1.92833907	1.28552958	1.7753043	2.01244533	1.93951044
Russian Federation	1.03116765	0.92866118	1.00658503	1.84237738	2.60618528	2.02980402	3.79771796	4.2989501	4.50270414	2.99213091	2.83082982	2.68483002	2.28876373	3.01327957	1.0675834
Saudi Arabia	-0.99256914	0.01066594	-0.32389987	-0.27177287	-0.12920973	3.68591735	4.86006641	5.849973	7.59063233	8.49635235	5.53432567	2.42957931	1.65527035	1.18726678	1.05926925
Serbia	0.79172711	1.44646922	3.04424217	6.92343708	3.85523965	6.00729581	13.9038969	10.9803333	8.23322239	6.87261172	4.29122045	10.6095236	3.13212598	4.5248639	4.52269607
Singapore	16.189772	19.0475942	6.69694377	17.578534	21.3596832	14.1976599	24.9828046	26.5212068	6.34706687	12.3805464	23.2955965	17.8121552	19.3307336	21.1794457	22.322254
Slovak Republic	7.49829456	4.99163984	12.0068536	2.07396504	7.09438456	6.25970653	8.06898633	5.86243215	4.62687859	1.7078538	2.36584736	5.52714852	1.90202119	1.01932081	-0.35904221
Slovenia	0.6675777	2.40091357	7.85025134	1.80352197	2.2137945	2.67092386	1.74697664	3.91758306	1.94474391	-0.68916437	0.66450945	1.70702141	0.07237553	0.21609586	2.04246654
South Africa	0.71048561	5.97886189	1.27846976	0.44685032	0.30638164	2.5311687	0.22931064	2.20269368	3.44305175	2.56529636	0.98409008	0.99292539	1.16720853	2.24423643	1.65049402
Spain	6.80035255	4.61555587	5.58886558	3.38978113	2.35390919	2.30889954	2.60881594	4.9868685	4.86587399	0.89912231	2.86529577	2.13579994	1.86488066	3.83944848	2.53391553
Sri Lanka	1.05898829	1.09074721	1.18827791	1.21132741	1.12667735	1.11612854	1.69700723	1.8639194	1.84746545	0.96035049	0.84183997	1.46411584	1.37517304	1.25521405	1.12605442
Suriname	-16.588871	-3.51030901	-6.82491235	-5.98648795	-2.51332036	1.55539653	-6.22149015	-8.40083737	-6.5497319	-2.41006768	-5.67027082	3.28538383	3.40245352	3.62949532	-1.13866865
Sweden	8.78277908	7.59337009	6.96469088	1.81441308	4.41561706	5.34201209	5.25023093	9.45919701	8.06212515	2.08558709	0.12799564	1.23943065	0.78574804	0.22756815	-1.50296249
Switzerland	8.48388647	3.50463637	2.73974453	5.58804922	1.80186414	0.6520627	12.4757784	10.1452332	0.53952628	8.80110771	3.02693574	2.96813725	5.97917463	-3.62037978	2.96159166
Syrian Arab Republic	1.39708925	0.52133112	0.53284531	0.73299862	1.0961883	1.73256384	1.97702899	3.07377535							
Tajikistan	2.73584238	0.87857405	2.95356588	2.03649573	13.10239	2.35604544	11.9646345	9.67785064	7.2808162	0.31769168	1.40746715	2.47013468	3.1356739	1.47511023	3.34881559
Thailand	2.66312691	4.21222564	2.488154	3.43593898	3.38947905	4.33958498	4.02125325	2.28356903	2.93824806	2.27590656	4.3232062	0.66708763	3.24456633	3.79126741	1.22145222
Trinidad and Tobago	8.33298812	9.46075961	11.1874931	7.14964286	7.51565755	5.87963579	4.80536029	3.83508151	10.0494226	3.69800644	2.47947143	0.16139439	-7.43220529	-4.25142501	2.43181751
Tunisia	3.49608271	2.04619204	3.41497218	1.96510498	1.89893492	2.20839302	9.42424773	3.89468064	5.797755	3.50994616	3.02944278	0.94446648	3.45054887	2.28886115	2.15339227
Turkey	0.35973412	1.67389152	0.45380552	0.54582246	0.68801661	2.00053328	3.65348021	3.26250001	2.59715739	1.33175126	1.17877693	1.94372849	1.57257199	1.42681398	1.40432432
Ukraine	1.90329792	2.08369812	1.63470785	2.84044706	2.64321686	9.06410156	5.20077993	7.14200582	5.94469525	4.06814871	4.74292355	4.41714544	4.65066325	2.45976564	0.63444072
United Kingdom	9.95965946	3.45917846	5.07578392	1.76664673	3.62966887	10.023137	7.56278213	6.81491358	8.76832647	0.61049815	2.73370796	1.03111218	1.75617183	1.98820366	1.94819055
United States	3.40372895	1.61432726	0.99718388	1.0173691	1.74046642	1.08711607	2.15405176	2.39412722	2.31742433	1.11717814	1.76445092	1.69801686	1.54961961	1.72621218	1.44515521
Uruguay	1.15156664	1.48526758	1.32181133	3.34326501	2.57711737	4.76089086	7.70373864	5.80394392	7.05379144	5.06173622	5.43898761	5.60875184	11.7896718	1.31256884	6.6923904
Venezuela	4.01482922	3.01373527	0.81921693	1.88111478	1.32410424	1.68373298	0.10791513	1.89178854	0.65927446	-0.34476733	0.40260193	1.85002511	1.30767898	0.57815873	0.23530177

Risk

Global liquidity measure (credit % GDP)

Global liquidity measure (credit % GDP)	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014
	34.663	37.3955	40.7095	45.107	47.81125	49.85675	54.467	61.48625	61.1495	54.222	52.0575	49.44625	44.94525	42.7	42.52675

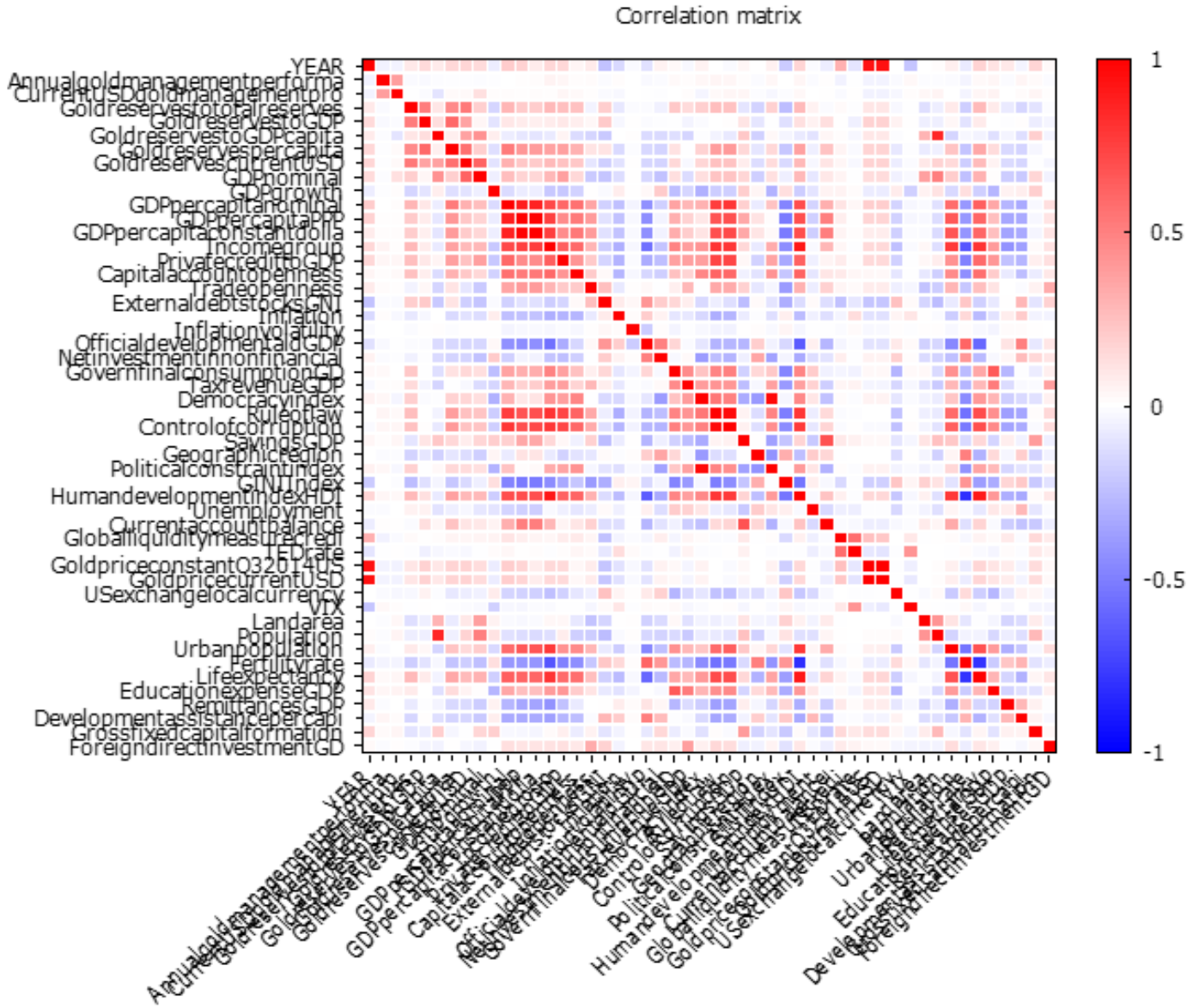
TED rate

TED rate	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014
	0.713171	0.384549	0.192172	0.206585	0.246066	0.412449	0.468659	0.938089	1.548943	0.537886	0.206653	0.283525	0.34358	0.210122	0.200366

VIX

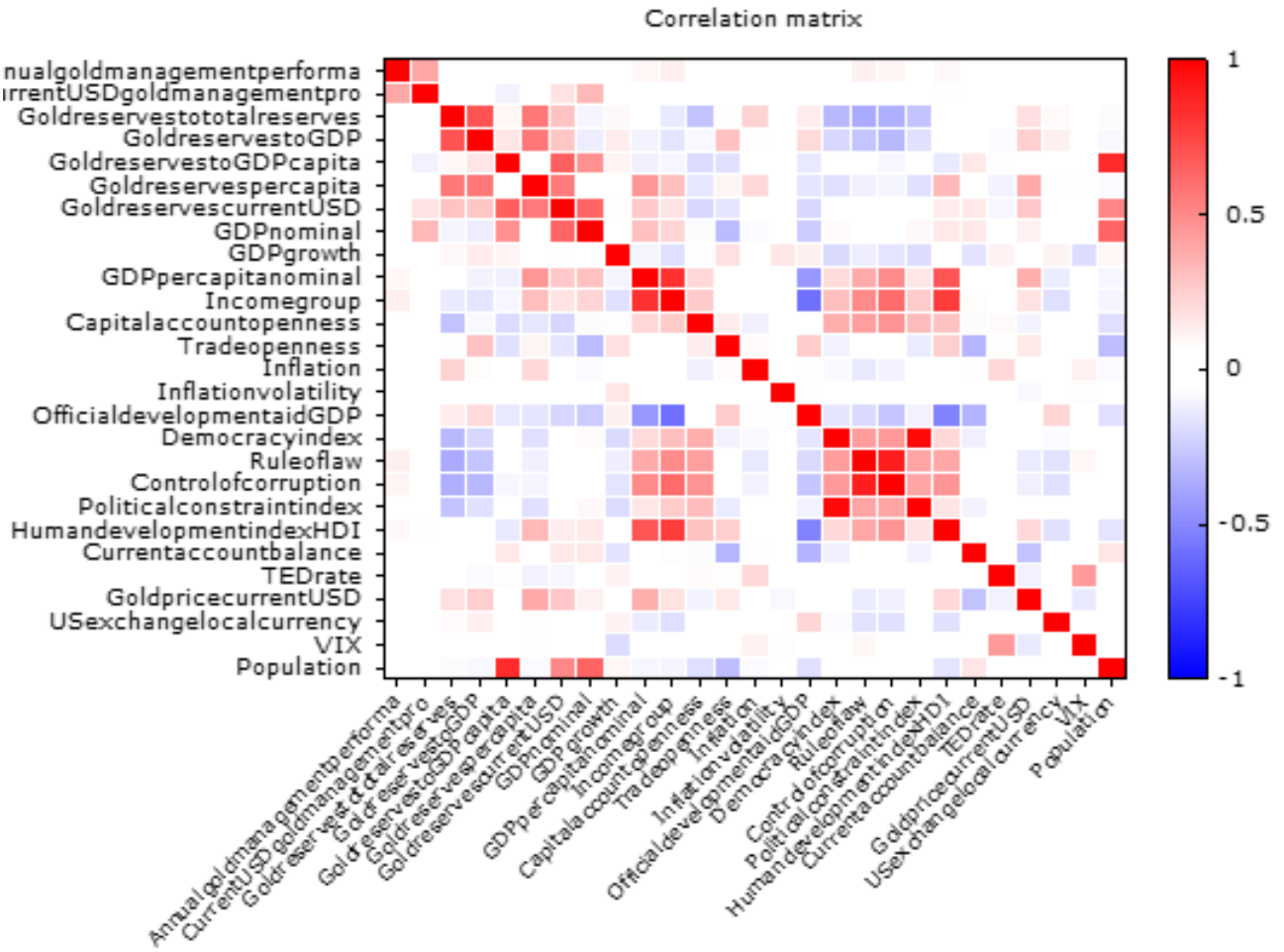
VIX	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014
	23.41282	26.03714	27.53163	22.21202	15.59397	12.83968	12.89622	17.59004	32.74944	31.79562	22.74578	24.27813	17.91892	14.29825	14.22012

2. Panel study: correlation matrix for initial variable selection

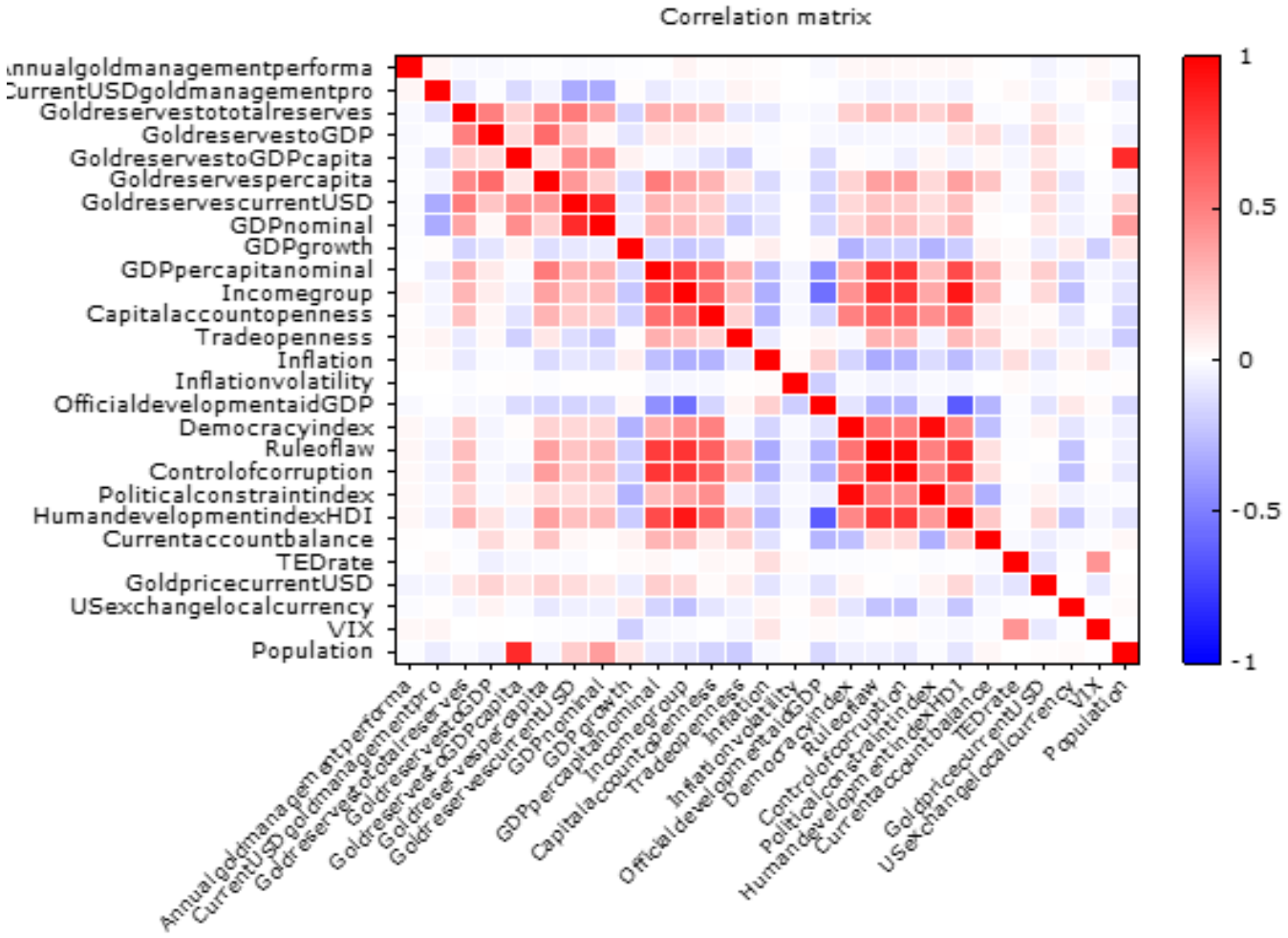


3. Panel study: correlation matrix for final variable selection

Correlation analysis using ordinary method. Balanced sample (listwise missing value deletion). Included observations 374.



Correlation analysis - ordinary method. Unbalanced pairwise sample (pairwise missing value deletion). Included observations 1500.



4. Panel study: Baseline models

4.1. Gold reserves to total reserves

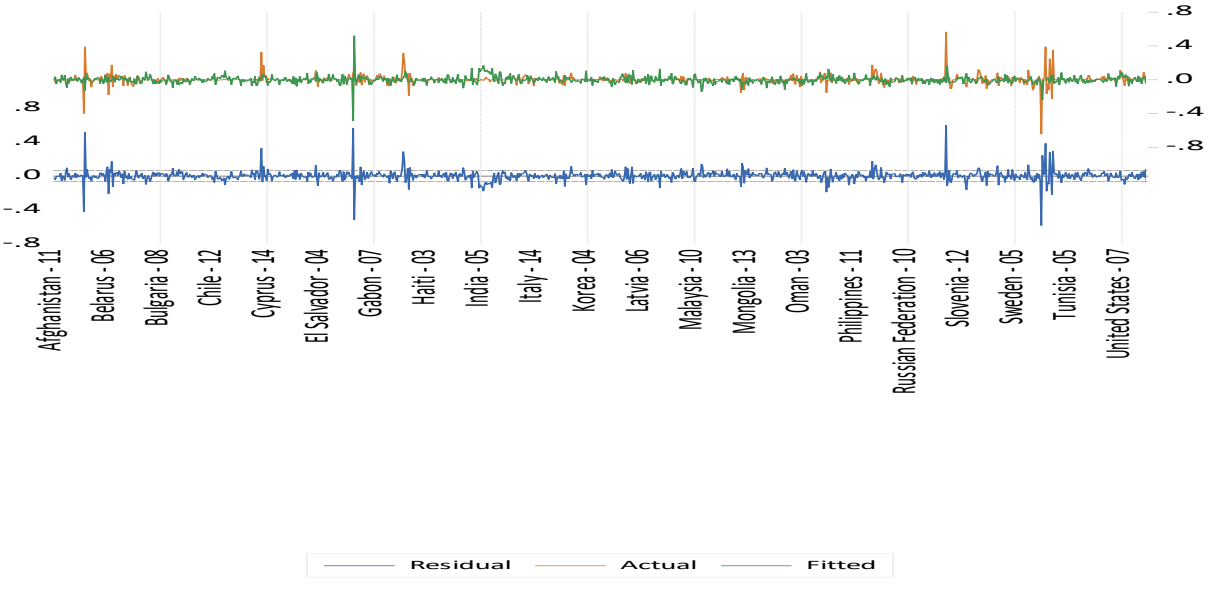
Dependent Variable: GOLD RESERVES TO TOTAL RESERVES
Method: Panel Generalized Method of Moments
Transformation: First Differences
Sample (adjusted): 2003 2014
Periods included: 12
Cross-sections included: 93
Total panel (unbalanced) observations: 1024
White period instrument weighting matrix
White period standard errors & covariance (d.f. corrected)
Instrument specification: @DYN(GOLD RESERVES TO TOTAL RESERVES,-2)
Constant added to instrument list

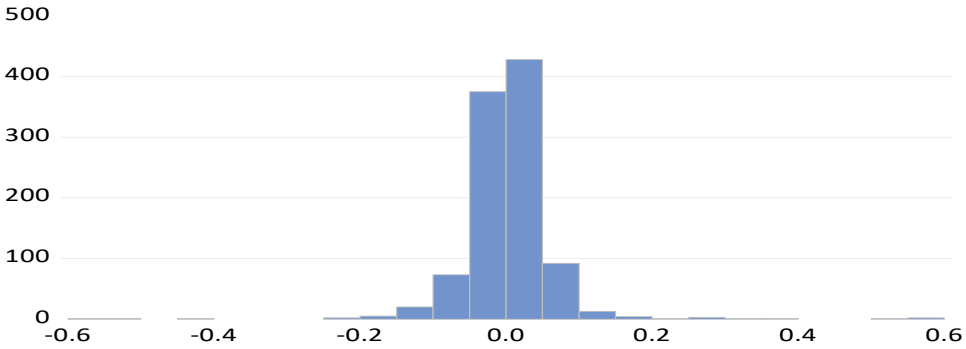
Variable	Coefficient	Std. Error	t-Statistic	Prob.
GOLD RESERVES TO TOTAL RES...	0.267823	0.005997	44.65587	0.0000
GOLD RESERVES TO TOTAL RES...	0.060214	0.001480	40.68368	0.0000
RULE OF LAW	0.178814	0.005244	34.10035	0.0000
INCOME GROUP	0.063995	0.002115	30.25261	0.0000
HUMAN DEVELOPMENT INDEX HDI	-2.991608	0.075189	-39.78758	0.0000
TRADE OPENNESS	-0.000449	3.90E-05	-11.51547	0.0000
CURRENT ACCOUNT BALANCE	-0.000588	9.54E-05	-6.166197	0.0000
FOREIGN DIRECT INVESTMENT ...	-0.000181	1.94E-05	-9.297882	0.0000
CAPITAL ACCOUNT OPENNESS	-0.193822	0.005875	-32.99269	0.0000
US EXCHANGE LOCAL CURRENCY	-5.29E-05	5.80E-06	-9.117867	0.0000
GDP GROWTH	0.000812	0.000147	5.516247	0.0000
INFLATION	0.000688	8.25E-05	8.341557	0.0000
INFLATION VOLATILITY	3.85E-07	2.24E-07	1.716883	0.0863
POPULATION	7.29E-09	7.44E-10	9.810560	0.0000
GOLD RESERVES CURRENT USD	4.77E-13	7.02E-14	6.784171	0.0000
GOLD PRICE CURRENT USD	7.33E-05	1.63E-06	44.93268	0.0000
VIX	-0.000616	2.36E-05	-26.14324	0.0000
GLOBAL LIQUIDITY MEASURE CR...	0.002151	6.04E-05	35.59188	0.0000

Effects Specification

Cross-section fixed (first differences)

Mean dependent var	0.002728	S.D. dependent var	0.048714
S.E. of regression	0.065834	Sum squared resid	4.360070
J-statistic	71.69757	Instrument rank	90
Prob(J-statistic)	0.487885		





Coefficient Confidence Intervals
Sample: 2000 2014
Included observations: 1024

Variable	Coefficient	90% CI Low	90% CI High	95% CI Low	95% CI High	99% CI Low	99% CI High
GOLD_RESERVES...	0.267823	0.257949	0.277697	0.256054	0.279592	0.252345	0.283300
GOLD_RESERVES...	0.060214	0.057777	0.062651	0.057310	0.063118	0.056394	0.064034
RULE_OF_LAW	0.178814	0.170180	0.187447	0.168524	0.189104	0.165281	0.192346
INCOME_GROUP	0.063995	0.060512	0.067478	0.059844	0.068146	0.058536	0.069454
HUMAN_DEVELOP...	-2.991608	-3.115397	-2.867818	-3.139154	-2.844061	-3.185651	-2.797564
TRADE_OPENNESS	-0.000449	-0.000513	-0.000385	-0.000526	-0.000373	-0.000550	-0.000349
CURRENT_ACCO...	-0.000588	-0.000745	-0.000431	-0.000776	-0.000401	-0.000835	-0.000342
FOREIGN_DIRECT_...	-0.000181	-0.000213	-0.000149	-0.000219	-0.000143	-0.000231	-0.000131
CAPITAL_ACCOUN...	-0.193822	-0.203493	-0.184150	-0.205350	-0.182293	-0.208982	-0.178661
US_EXCHANGE_L...	-5.29E-05	-6.25E-05	-4.33E-05	-6.43E-05	-4.15E-05	-6.79E-05	-3.79E-05
GDP_GROWTH	0.000812	0.000569	0.001054	0.000523	0.001100	0.000432	0.001191
INFLATION	0.000688	0.000552	0.000824	0.000526	0.000850	0.000475	0.000901
INFLATION_VOLATI...	3.85E-07	1.58E-08	7.55E-07	-5.51E-08	8.26E-07	-1.94E-07	9.65E-07
POPULATION	7.29E-09	6.07E-09	8.52E-09	5.84E-09	8.75E-09	5.38E-09	9.21E-09
GOLD_RESERVES...	4.77E-13	3.61E-13	5.92E-13	3.39E-13	6.14E-13	2.95E-13	6.58E-13
GOLD_PRICE_C...	7.33E-05	7.06E-05	7.60E-05	7.01E-05	7.65E-05	6.91E-05	7.75E-05
VIX	-0.000616	-0.000655	-0.000577	-0.000662	-0.000570	-0.000677	-0.000555
GLOBAL_LIQUIDIT...	0.002151	0.002052	0.002251	0.002033	0.002270	0.001995	0.002307

Arellano-Bond Serial Correlation Test
Equation: MODELGOLDRESERVESTOTOTALRESERVES
Sample: 2000 2014
Included observations: 1024

Test order	m-Statistic	rho	SE(rho)	Prob.
AR(1)	NA	-0.772240	NA	NA
AR(2)	0.026033	0.027265	1.047329	0.9792

As observed, the results of this test for autocorrelation of the residuals do not allow a rejection of the null hypothesis, which is that there is no serial autocorrelation, because AR(2) is not significant at the 5% significance level, since the Hansen test p-value is higher than 0.05 (0.9792 in this case).

4.2. Annual gold management performance

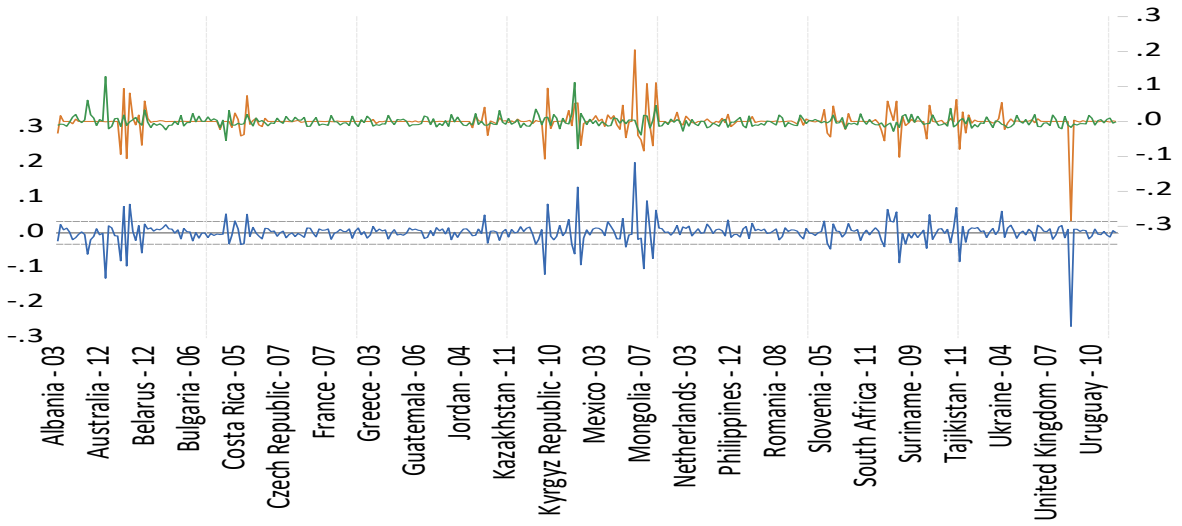
Dependent Variable: ANNUAL_GOLD_MANAGEMENT_PERFORMANCE
Method: Panel Generalized Method of Moments
Transformation: First Differences
Sample (adjusted): 2003 2014
Periods included: 12
Cross-sections included: 56
Total panel (unbalanced) observations: 353
White period instrument weighting matrix
White period standard errors & covariance (d.f. corrected)
Instrument specification: @DYN(ANNUAL_GOLD_MANAGEMENT_PER
FORMANCE,-2)
Constant added to instrument list

Variable	Coefficient	Std. Error	t-Statistic	Prob.
ANNUAL_GOLD_MANAGEMENT_PER...	-0.098394	0.001074	-91.57522	0.0000
ANNUAL_GOLD_MANAGEMENT_PER...	-0.000295	1.34E-05	-22.11127	0.0000
RULE_OF_LAW	0.025357	0.000481	52.69276	0.0000
INCOME_GROUP	0.007375	0.000281	26.20017	0.0000
HUMAN_DEVELOPMENT_INDEX__HDI_	0.040649	0.025072	1.621296	0.1059
TRADE_OPENNESS	0.000570	1.51E-05	37.76288	0.0000
CURRENT_ACCOUNT_BALANCE	0.000824	1.39E-05	59.20282	0.0000
FOREIGN_DIRECT_INVESTMENT_...	0.000345	7.50E-06	45.98466	0.0000
CAPITAL_ACCOUNT_OPENNESS	0.032825	0.002556	12.84333	0.0000
US_EXCHANGE_LOCAL_CURRENCY	4.19E-05	1.39E-06	30.12551	0.0000
GDP_GROWTH____	0.000165	2.42E-05	6.803995	0.0000
INFLATION	-0.000116	1.60E-05	-7.265784	0.0000
INFLATION_VOLATILITY	-0.000271	4.75E-05	-5.708893	0.0000
POPULATION	-7.13E-10	7.77E-11	-9.171708	0.0000
GOLD_RESERVES__CURRENT_USD_	-2.78E-13	6.05E-14	-4.591840	0.0000
GOLD_PRICE_CURRENT_USD	-8.48E-06	9.14E-07	-9.271467	0.0000
VIX	0.001216	1.37E-05	88.95498	0.0000
GLOBAL_LIQUIDITY_MEASURE_CR...	-0.001652	2.78E-05	-59.32093	0.0000

Effects Specification

Cross-section fixed (first differences)

Mean dependent var	0.000725	S.D. dependent var	0.021421
S.E. of regression	0.032367	Sum squared resid	0.350959
J-statistic	31.92951	Instrument rank	52
Prob(J-statistic)	0.569459		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Philippines - 12
Romania - 08
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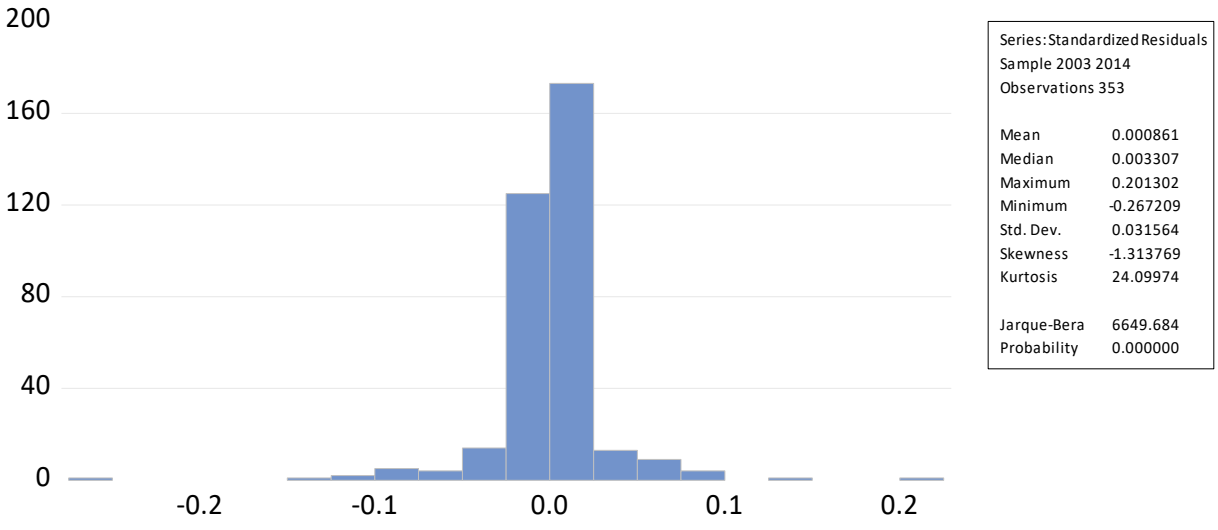
Suriname - 09
Tajikistan - 11
Ukraine - 04
United Kingdom - 07
Uruguay - 10

Residual
Actual
Fitted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Series: Standardized Residuals
Sample 2003 2014
Observations 353
Mean 0.000861
Median 0.003307
Maximum 0.201302
Minimum -0.267209
Std. Dev. 0.031564
Skewness -1.313769
Kurtosis 24.09974
Jarque-Bera 6649.684
Probability 0.000000

Coefficient Confidence Intervals
Sample: 2000 2014
Included observations: 353

Variable	Coefficient	90% CI Low	90% CI High	95% CI Low	95% CI High	99% CI Low	99% CI High
ANNUAL GOLD M...	-0.098394	-0.100166	-0.096621	-0.100507	-0.096280	-0.101177	-0.095610
ANNUAL GOLD M...	-0.000295	-0.000317	-0.000273	-0.000322	-0.000269	-0.000330	-0.000261
RULE OF LAW	0.025357	0.024563	0.026151	0.024411	0.026304	0.024111	0.026604
INCOME GROUP	0.007375	0.006911	0.007840	0.006822	0.007929	0.006646	0.008104
HUMAN DEVELOP...	0.040649	-0.000705	0.082002	-0.008669	0.089967	-0.024302	0.105599
TRADE OPENNESS	0.000570	0.000545	0.000595	0.000540	0.000600	0.000531	0.000609
CURRENT ACCO...	0.000824	0.000801	0.000847	0.000797	0.000852	0.000788	0.000861
FOREIGN DIRECT ...	0.000345	0.000332	0.000357	0.000330	0.000359	0.000325	0.000364
CAPITAL_ACCOUN...	0.032825	0.028610	0.037041	0.027798	0.037853	0.026204	0.039446
US EXCHANGE L...	4.19E-05	3.96E-05	4.42E-05	3.92E-05	4.47E-05	3.83E-05	4.55E-05
GDP GROWTH	0.000165	0.000125	0.000205	0.000117	0.000213	0.000102	0.000228
INFLATION	-0.000116	-0.000143	-8.99E-05	-0.000148	-8.48E-05	-0.000158	-7.48E-05
INFLATION VOLATI...	-0.000271	-0.000349	-0.000193	-0.000364	-0.000178	-0.000394	-0.000148
POPULATION	-7.13E-10	-8.41E-10	-5.85E-10	-8.66E-10	-5.60E-10	-9.14E-10	-5.12E-10
GOLD RESERVES...	-2.78E-13	-3.78E-13	-1.78E-13	-3.97E-13	-1.59E-13	-4.35E-13	-1.21E-13
GOLD PRICE C...	-8.48E-06	-9.98E-06	-6.97E-06	-1.03E-05	-6.68E-06	-1.08E-05	-6.11E-06
VIX	0.001216	0.001194	0.001239	0.001189	0.001243	0.001181	0.001252
GLOBAL LIQUIDIT...	-0.001652	-0.001698	-0.001606	-0.001707	-0.001597	-0.001724	-0.001580

Arellano-Bond Serial Correlation Test
Equation: MODELANNUALGOLDMANAGEMENTPERFORMANCE
Sample: 2000 2014
Included observations: 353

Test order	m-Statistic	rho	SE(rho)	Prob.
AR(1)	NA	-0.081892	NA	NA
AR(2)	0.000153	0.002443	15.927209	0.9999

As observed, the results of this test for autocorrelation of the residuals do not allow a rejection of the null hypothesis, which is that there is no serial autocorrelation, because AR(2) is not significant at the 5% significance level, since the Hansen test p-value is higher than 0.05 (0.9999 in this case).

5. Panel study: robustness tests

5.1. Gold reserves to total reserves

5.1.1. Proxy independent variables

We use the same two models and rationale employed when testing the dependent variable “annual gold management performance”.

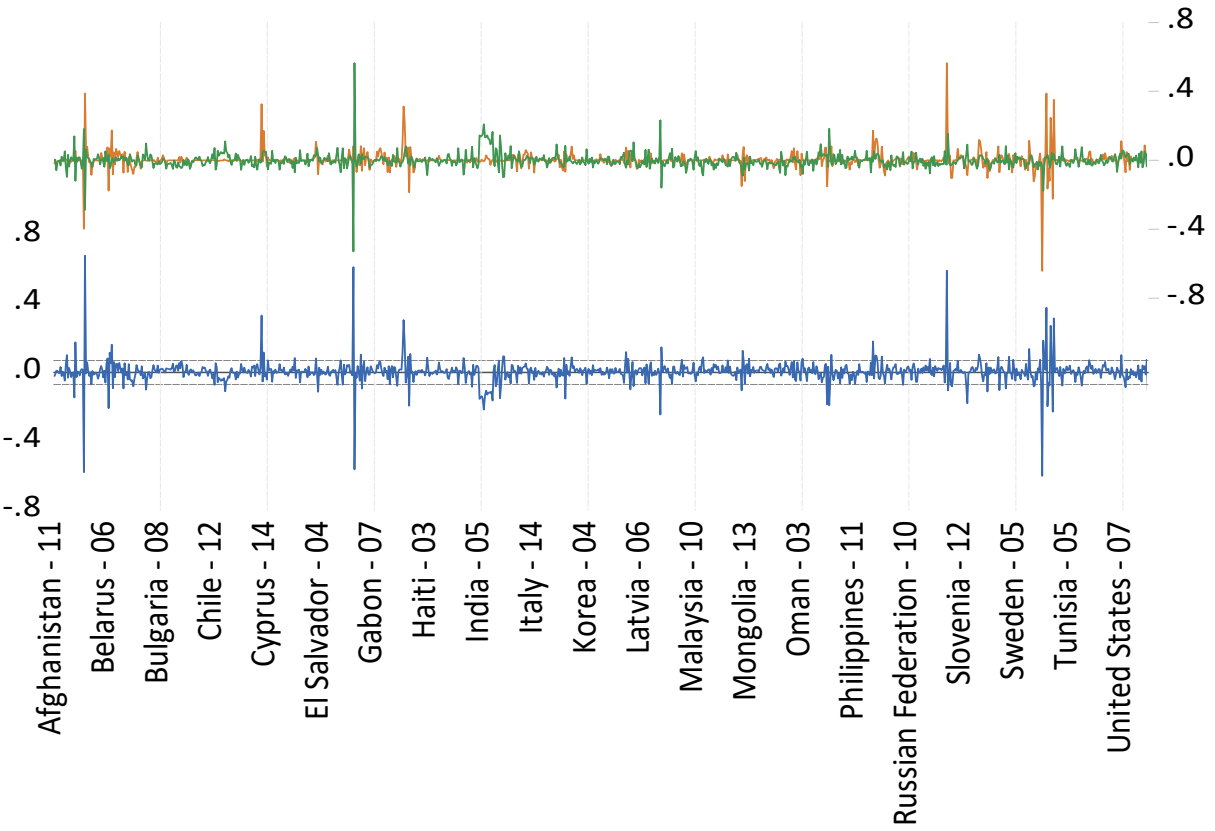
Dependent Variable: GOLD_RESERVES_TO_TOTAL_RESERVES
Method: Panel Generalized Method of Moments
Transformation: First Differences
Sample (adjusted): 2003 2014
Periods included: 12
Cross-sections included: 93
Total panel (unbalanced) observations: 1024
White period instrument weighting matrix
White period standard errors & covariance (d.f. corrected)
Instrument specification: @DYN(GOLD_RESERVES_TO_TOTAL_RES
ERVES,-2)
Constant added to instrument list

Variable	Coefficient	Std. Error	t-Statistic	Prob.
GOLD_RESERVES_TO_TOTAL_RES...	0.248483	0.003110	79.90068	0.0000
GOLD_RESERVES_TO_TOTAL_RES...	0.063379	0.001682	37.69040	0.0000
CONTROL_OF_CORRUPTION	0.059915	0.003746	15.99222	0.0000
INCOME_GROUP	0.070136	0.002055	34.13527	0.0000
HUMAN_DEVELOPMENT_INDEX__HDI_	-2.774566	0.053233	-52.12082	0.0000
TRADE_OPENNESS	-0.000450	3.72E-05	-12.12257	0.0000
CURRENT_ACCOUNT_BALANCE	-6.72E-05	7.32E-05	-0.917411	0.3591
FOREIGN_DIRECT_INVESTMENT_...	-0.000102	1.66E-05	-6.151844	0.0000
CAPITAL_ACCOUNT_OPENNESS	-0.106215	0.007815	-13.59159	0.0000
US_EXCHANGE_LOCAL_CURRENCY	-8.02E-05	6.62E-06	-12.10361	0.0000
GDP_GROWTH	0.001538	0.000172	8.939685	0.0000
INFLATION	-0.000228	0.000105	-2.171794	0.0301
INFLATION_VOLATILITY	4.19E-07	1.61E-07	2.607776	0.0092
POPULATION	8.87E-09	7.50E-10	11.81412	0.0000
GOLD_RESERVES__CURRENT_USD_	1.42E-13	4.84E-14	2.934486	0.0034
GOLD_PRICE__CURRENT_USD	7.16E-05	1.78E-06	40.30456	0.0000
VIX	-6.85E-05	3.75E-05	-1.826613	0.0681
GLOBAL_LIQUIDITY_MEASURE__CR...	0.001446	6.69E-05	21.61939	0.0000

Effects Specification

Cross-section fixed (first differences)

Mean dependent var	0.002728	S.D. dependent var	0.048714
S.E. of regression	0.069318	Sum squared resid	4.833806
J-statistic	71.76326	Instrument rank	90
Prob(J-statistic)	0.485698		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Korea - 04
Latvia - 06
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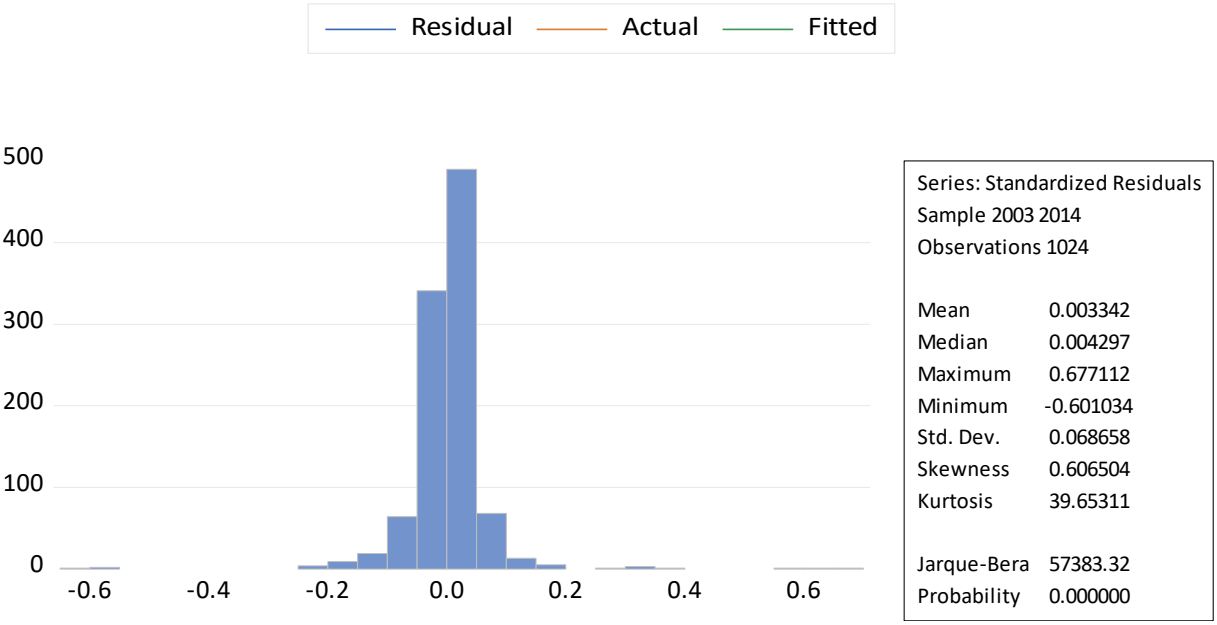
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-0.2
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0.2
0.4
0.6
Series: Standardized Residuals
Sample 2003 2014
Observations 1024
Mean 0.003342
Median 0.004297
Maximum 0.677112
Minimum -0.601034
Std. Dev. 0.068658
Skewness 0.606504
Kurtosis 39.65311
Jarque-Bera 57383.32
Probability 0.000000

Coefficient Confidence Intervals
Sample: 2000 2014
Included observations: 1024

Variable	Coefficient	90% CI		95% CI		99% CI	
		Low	High	Low	High	Low	High
GOLD RESERVES...	0.248483	0.243363	0.253603	0.242380	0.254585	0.240457	0.256508
GOLD RESERVES...	0.063379	0.060610	0.066147	0.060079	0.066678	0.059039	0.067718
CONTROL OF C...	0.059915	0.053747	0.066083	0.052563	0.067267	0.050246	0.069583
INCOME GROUP	0.070136	0.066754	0.073519	0.066104	0.074168	0.064834	0.075439
HUMAN DEVELOP...	-2.774566	-2.862208	-2.686925	-2.879027	-2.670105	-2.911947	-2.637186
TRADE OPENNESS	-0.000450	-0.000512	-0.000389	-0.000523	-0.000378	-0.000546	-0.000355
CURRENT ACCO...	-6.72E-05	-0.000188	5.34E-05	-0.000211	7.65E-05	-0.000256	0.000122
FOREIGN DIRECT ...	-0.000102	-0.000130	-7.50E-05	-0.000135	-6.97E-05	-0.000145	-5.94E-05
CAPITAL ACCOUN...	-0.106215	-0.119081	-0.093349	-0.121551	-0.090880	-0.126383	-0.086048
US EXCHANGE L...	-8.02E-05	-9.11E-05	-6.93E-05	-9.32E-05	-6.72E-05	-9.72E-05	-6.31E-05
GDP GROWTH	0.001538	0.001255	0.001821	0.001200	0.001876	0.001094	0.001982
INFLATION	-0.000228	-0.000401	-5.52E-05	-0.000434	-2.20E-05	-0.000499	4.29E-05
INFLATION VOLATI...	4.19E-07	1.55E-07	6.84E-07	1.04E-07	7.35E-07	4.35E-09	8.34E-07
POPULATION	8.87E-09	7.63E-09	1.01E-08	7.39E-09	1.03E-08	6.93E-09	1.08E-08
GOLD RESERVES...	1.42E-13	6.23E-14	2.22E-13	4.70E-14	2.37E-13	1.71E-14	2.67E-13
GOLD PRICE C...	7.16E-05	6.86E-05	7.45E-05	6.81E-05	7.51E-05	6.70E-05	7.62E-05
VIX	-6.85E-05	-0.000130	-6.75E-06	-0.000142	5.09E-06	-0.000165	2.83E-05
GLOBAL LIQUIDIT...	0.001446	0.001336	0.001556	0.001315	0.001577	0.001273	0.001618

Arellano-Bond Serial Correlation Test
Equation: MODELGOLDRESERVESTOTOTALRESERVES
Sample: 2000 2014
Included observations: 1024

Test order	m-Statistic	rho	SE(rho)	Prob.
AR(1)	-0.338468	-0.882647	2.607774	0.7350
AR(2)	NA	0.094231	NA	NA

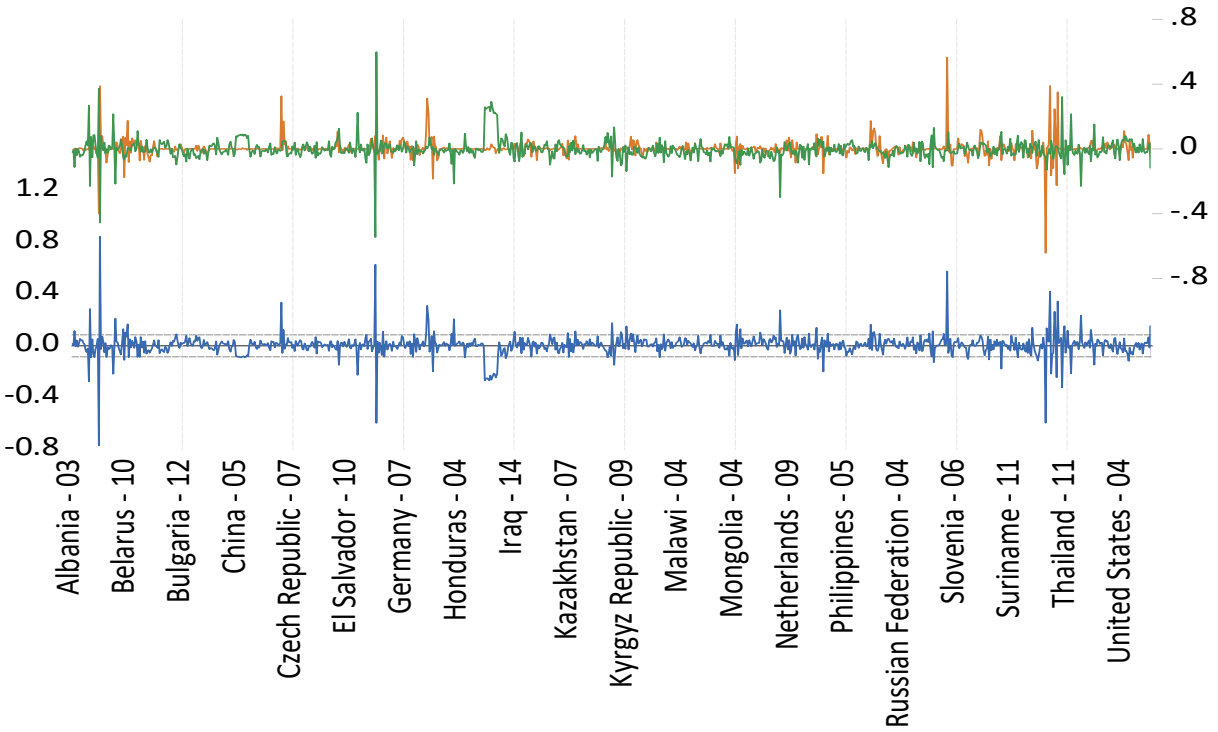
Dependent Variable: GOLD RESERVES TO TOTAL RESERVES
Method: Panel Generalized Method of Moments
Transformation: First Differences
Sample (adjusted): 2003 2014
Periods included: 12
Cross-sections included: 90
Total panel (unbalanced) observations: 977
White period instrument weighting matrix
White period standard errors & covariance (d.f. corrected)
Instrument specification: @DYN(GOLD RESERVES TO TOTAL RES ERVES,-2)
Constant added to instrument list

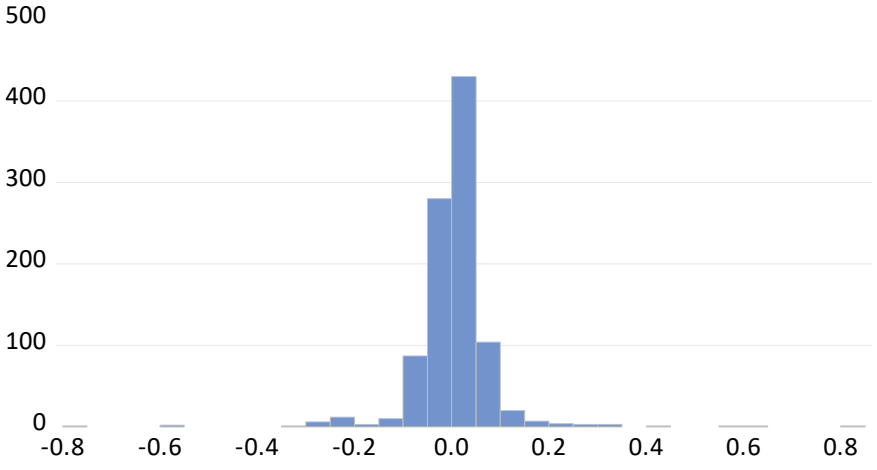
Variable	Coefficient	Std. Error	t-Statistic	Prob.
GOLD RESERVES TO TOTAL RES...	0.194720	0.003550	54.85822	0.0000
GOLD RESERVES TO TOTAL RES...	0.056966	0.002094	27.20340	0.0000
DEMOCRACY INDEX	-0.033912	0.002270	-14.94232	0.0000
GDP PER CAPITA NOMINAL	6.65E-06	1.47E-07	45.17617	0.0000
HUMAN DEVELOPMENT INDEX HDI	-3.648333	0.053969	-67.60041	0.0000
TRADE OPENNESS	-0.001797	4.49E-05	-39.97761	0.0000
CURRENT ACCOUNT BALANCE	0.001761	8.99E-05	19.58535	0.0000
FOREIGN DIRECT INVESTMENT ...	4.64E-05	8.21E-06	5.651793	0.0000
CAPITAL ACCOUNT OPENNESS	-0.100490	0.004772	-21.05894	0.0000
US EXCHANGE LOCAL CURRENCY	-2.84E-05	3.74E-06	-7.601729	0.0000
GDP GROWTH	0.003213	0.000121	26.63977	0.0000
INFLATION	0.001049	3.91E-05	26.81315	0.0000
INFLATION VOLATILITY	4.36E-07	6.59E-08	6.609068	0.0000
POPULATION	1.62E-08	9.82E-10	16.45907	0.0000
GOLD RESERVES CURRENT USD	1.73E-13	4.01E-14	4.316168	0.0000
GOLD PRICE CURRENT USD	5.48E-05	1.98E-06	27.69197	0.0000
VIX	0.000251	5.28E-05	4.754679	0.0000
GLOBAL LIQUIDITY MEASURE CR...	0.000181	4.91E-05	3.677601	0.0002

Effects Specification

Cross-section fixed (first differences)

Mean dependent var	0.002823	S.D. dependent var	0.049741
S.E. of regression	0.084769	Sum squared resid	6.891085
J-statistic	76.80490	Instrument rank	90
Prob(J-statistic)	0.327393		





Series: Standardized Residuals	
Sample 2003 2014	
Observations 977	
Mean	0.005162
Median	0.008649
Maximum	0.843829
Minimum	-0.769432
Std. Dev.	0.083868
Skewness	0.150962
Kurtosis	32.21259
Jarque-Bera	34743.20
Probability	0.000000

Coefficient Confidence Intervals
Sample: 2000 2014
Included observations: 977

Variable	Coefficient	90% CI		95% CI		99% CI	
		Low	High	Low	High	Low	High
GOLD_RESERVES...	0.194720	0.188876	0.200564	0.187754	0.201686	0.185559	0.203881
GOLD_RESERVES...	0.056966	0.053518	0.060414	0.052856	0.061075	0.051561	0.062371
DEMOCRACY_INDEX	-0.033912	-0.037649	-0.030176	-0.038366	-0.029459	-0.039770	-0.028055
GDP_PER_CAPITA...	6.65E-06	6.41E-06	6.89E-06	6.36E-06	6.94E-06	6.27E-06	7.03E-06
HUMAN_DEVELOP...	-3.648333	-3.737190	-3.559476	-3.754244	-3.542422	-3.787625	-3.509041
TRADE_OPENNESS	-0.001797	-0.001871	-0.001723	-0.001885	-0.001708	-0.001913	-0.001681
CURRENT_ACCO...	0.001761	0.001613	0.001909	0.001584	0.001937	0.001529	0.001993
FOREIGN_DIRECT_...	4.64E-05	3.29E-05	5.99E-05	3.03E-05	6.25E-05	2.52E-05	6.76E-05
CAPITAL_ACCOUN...	-0.100490	-0.108346	-0.092633	-0.109854	-0.091125	-0.112806	-0.088174
US_EXCHANGE_L...	-2.84E-05	-3.46E-05	-2.23E-05	-3.57E-05	-2.11E-05	-3.81E-05	-1.88E-05
GDP_GROWTH	0.003213	0.003014	0.003412	0.002976	0.003450	0.002902	0.003524
INFLATION	0.001049	0.000985	0.001114	0.000972	0.001126	0.000948	0.001150
INFLATION_VOLATI...	4.36E-07	3.27E-07	5.44E-07	3.06E-07	5.65E-07	2.66E-07	6.06E-07
POPULATION	1.62E-08	1.46E-08	1.78E-08	1.42E-08	1.81E-08	1.36E-08	1.87E-08
GOLD_RESERVES...	1.73E-13	1.07E-13	2.39E-13	9.44E-14	2.52E-13	6.96E-14	2.77E-13
GOLD_PRICE_C...	5.48E-05	5.15E-05	5.80E-05	5.09E-05	5.86E-05	4.97E-05	5.99E-05
VIX	0.000251	0.000164	0.000338	0.000148	0.000355	0.000115	0.000388
GLOBAL_LIQUIDIT...	0.000181	9.98E-05	0.000262	8.43E-05	0.000277	5.39E-05	0.000307

Arellano-Bond Serial Correlation Test
Equation: MODELGOLDRESERVESTOTOTALRESERVES
Sample: 2000 2014
Included observations: 977

Test order	m-Statistic	rho	SE(rho)	Prob.
AR(1)	-0.029282	-0.592740	20.242206	0.9766
AR(2)	0.155806	0.742103	4.762995	0.8762

Following the methodology used for the dependent variable “annual gold management performance, we proceed to substitute, within the GLOBAL variable grouping, the variable “global liquidity measure (credit % GDP)” by a proxy variable, “TED rate”, for model robustness testing purposes. The results of the alternative modelization are presented here:

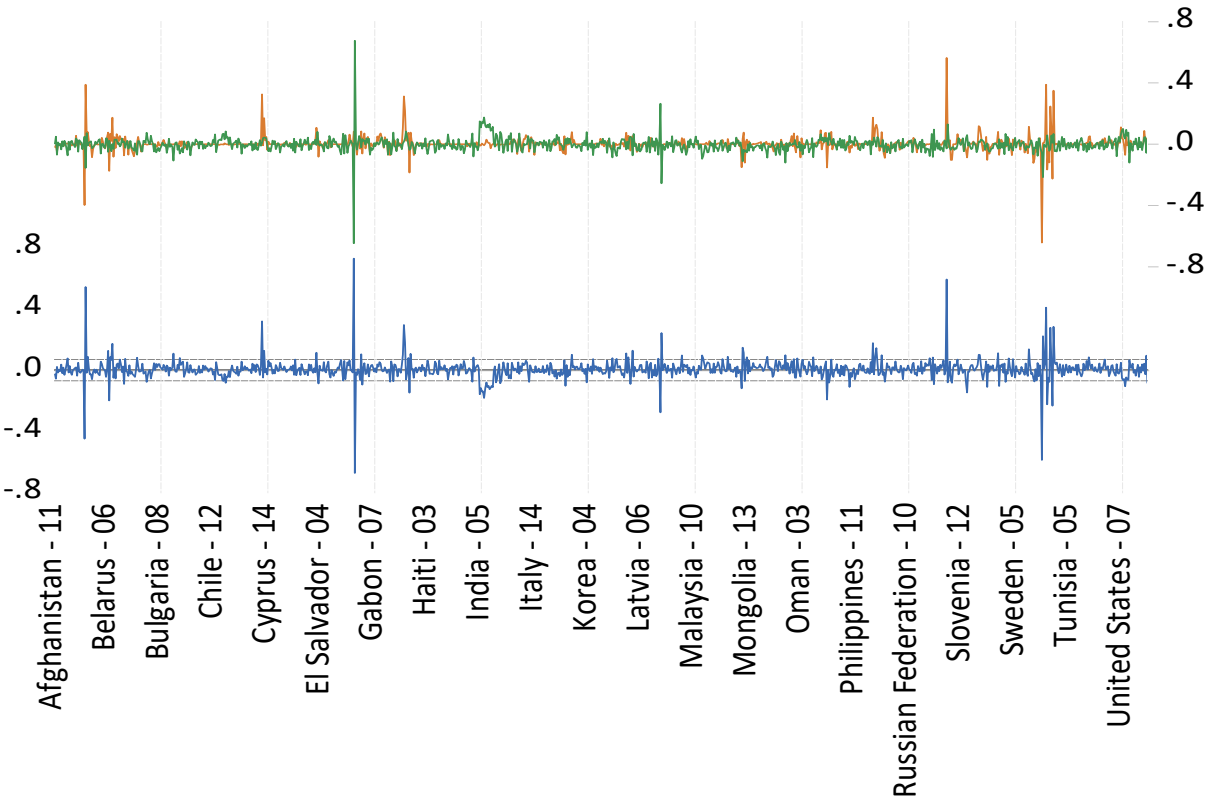
Dependent Variable: GOLD RESERVES TO TOTAL RESERVES
Method: Panel Generalized Method of Moments
Transformation: First Differences
Sample (adjusted): 2003 2014
Periods included: 12
Cross-sections included: 93
Total panel (unbalanced) observations: 1024
White period instrument weighting matrix
White period standard errors & covariance (d.f. corrected)
Instrument specification: @DYN(GOLD RESERVES TO TOTAL RES ERVES,-2)
Constant added to instrument list

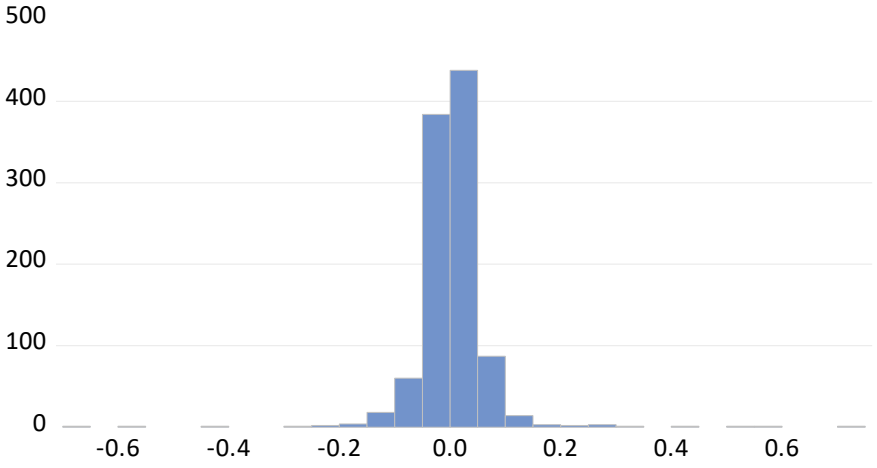
Variable	Coefficient	Std. Error	t-Statistic	Prob.
GOLD RESERVES TO TOTAL RES...	0.241436	0.004997	48.31824	0.0000
GOLD RESERVES TO TOTAL RES...	0.063867	0.001594	40.07238	0.0000
RULE OF LAW	0.157089	0.003858	40.71345	0.0000
INCOME GROUP	0.043325	0.002235	19.38277	0.0000
HUMAN DEVELOPMENT INDEX HDI	-2.993995	0.067256	-44.51647	0.0000
TRADE OPENNESS	-0.001799	4.67E-05	-38.50534	0.0000
CURRENT ACCOUNT BALANCE	0.000481	0.000130	3.692564	0.0002
FOREIGN DIRECT INVESTMENT ...	-0.000135	1.86E-05	-7.262487	0.0000
CAPITAL ACCOUNT OPENNESS	-0.103848	0.007965	-13.03818	0.0000
US EXCHANGE LOCAL CURRENCY	-4.40E-05	5.47E-06	-8.057077	0.0000
GDP GROWTH	0.001788	0.000200	8.937290	0.0000
INFLATION	0.000139	4.38E-05	3.162519	0.0016
INFLATION VOLATILITY	5.09E-07	1.79E-07	2.842973	0.0046
POPULATION	8.49E-09	8.42E-10	10.07793	0.0000
GOLD RESERVES CURRENT USD	9.17E-13	6.00E-14	15.28181	0.0000
GOLD PRICE CURRENT USD	7.31E-05	1.92E-06	37.96420	0.0000
VIX	-0.001141	5.11E-05	-22.33862	0.0000
TED RATE	0.043473	0.001094	39.75515	0.0000

Effects Specification

Cross-section fixed (first differences)

Mean dependent var	0.002728	S.D. dependent var	0.048714
S.E. of regression	0.069552	Sum squared resid	4.866542
J-statistic	73.34242	Instrument rank	90
Prob(J-statistic)	0.433808		





Series: Standardized Residuals	
Sample 2003 2014	
Observations 1024	
Mean	0.004577
Median	0.002793
Maximum	0.727847
Minimum	-0.672084
Std. Dev.	0.068820
Skewness	0.721104
Kurtosis	41.07648
Jarque-Bera	61947.66
Probability	0.000000

Coefficient Confidence Intervals
Sample: 2000 2014
Included observations: 1024

Variable	Coefficient	90% CI Low	90% CI High	95% CI Low	95% CI High	99% CI Low	99% CI High
GOLD RESERVES...	0.241436	0.233210	0.249663	0.231631	0.251242	0.228541	0.254332
GOLD RESERVES...	0.063867	0.061243	0.066491	0.060740	0.066995	0.059754	0.067980
RULE OF LAW	0.157089	0.150737	0.163442	0.149518	0.164661	0.147132	0.167047
INCOME GROUP	0.043325	0.039645	0.047005	0.038939	0.047711	0.037557	0.049094
HUMAN DEVELOP...	-2.993995	-3.104723	-2.883267	-3.125973	-2.862017	-3.167564	-2.820426
TRADE OPENNESS	-0.001799	-0.001876	-0.001722	-0.001891	-0.001708	-0.001920	-0.001679
CURRENT ACCO...	0.000481	0.000266	0.000695	0.000225	0.000736	0.000145	0.000817
FOREIGN DIRECT ...	-0.000135	-0.000165	-0.000104	-0.000171	-9.83E-05	-0.000183	-8.69E-05
CAPITAL ACCOUN...	-0.103848	-0.116961	-0.090735	-0.119478	-0.088218	-0.124403	-0.083293
US EXCHANGE L...	-4.40E-05	-5.30E-05	-3.50E-05	-5.48E-05	-3.33E-05	-5.82E-05	-2.99E-05
GDP GROWTH	0.001788	0.001459	0.002117	0.001395	0.002181	0.001272	0.002304
INFLATION	0.000139	6.64E-05	0.000211	5.26E-05	0.000224	2.55E-05	0.000252
INFLATION VOLATI...	5.09E-07	2.14E-07	8.03E-07	1.58E-07	8.60E-07	4.69E-08	9.71E-07
POPULATION	8.49E-09	7.10E-09	9.88E-09	6.84E-09	1.01E-08	6.32E-09	1.07E-08
GOLD RESERVES...	9.17E-13	8.18E-13	1.02E-12	7.99E-13	1.03E-12	7.62E-13	1.07E-12
GOLD PRICE C...	7.31E-05	6.99E-05	7.62E-05	6.93E-05	7.68E-05	6.81E-05	7.80E-05
VIX	-0.001141	-0.001225	-0.001057	-0.001241	-0.001041	-0.001273	-0.001009
TED RATE	0.043473	0.041673	0.045274	0.041327	0.045619	0.040651	0.046295

Arellano-Bond Serial Correlation Test
Equation: MODELGOLDRESERVESTOTOTALRESERVES
Sample: 2000 2014
Included observations: 1024

Test order	m-Statistic	rho	SE(rho)	Prob.
AR(1)	NA	-0.966096	NA	NA
AR(2)	0.175822	0.174493	0.992439	0.8604

5.1.2. Proxy dependent variables

To verify the robustness of the main model, three alternative models will be tested substituting the dependent variable “gold reserves to total reserves” by “gold reserves to GDP per capita”, “gold reserves per capita” and “gold reserves to GDP”. As can be observed in the graphic display of the variable correlation matrix, these four variables follow similar correlation patterns with the independent variables in this study. This, together with their definitions, has led us to consider them as adequate proxy variables to test the robustness of the model.

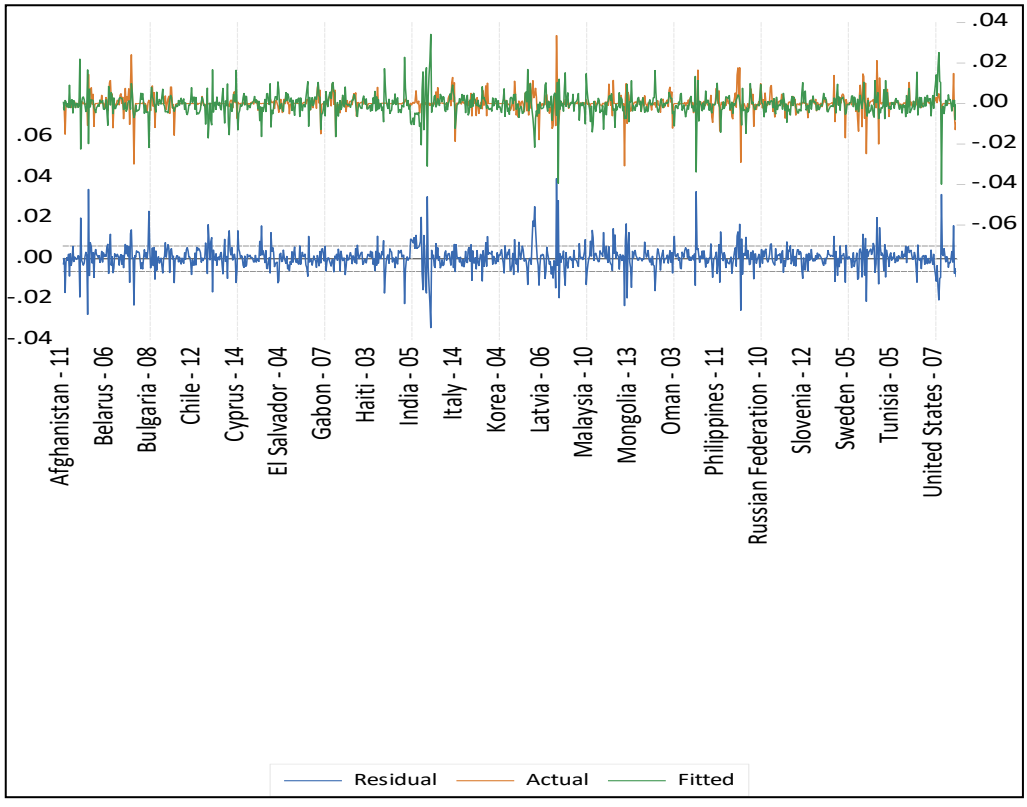
Dependent Variable: GOLD_RESERVES_TO_GDP
Method: Panel Generalized Method of Moments
Transformation: First Differences
Sample (adjusted): 2003 2014
Periods included: 12
Cross-sections included: 93
Total panel (unbalanced) observations: 1024
White period instrument weighting matrix
White period standard errors & covariance (d.f. corrected)
Instrument specification: @DYN(GOLD_RESERVES_PER_CAPITA,-2)
Constant added to instrument list

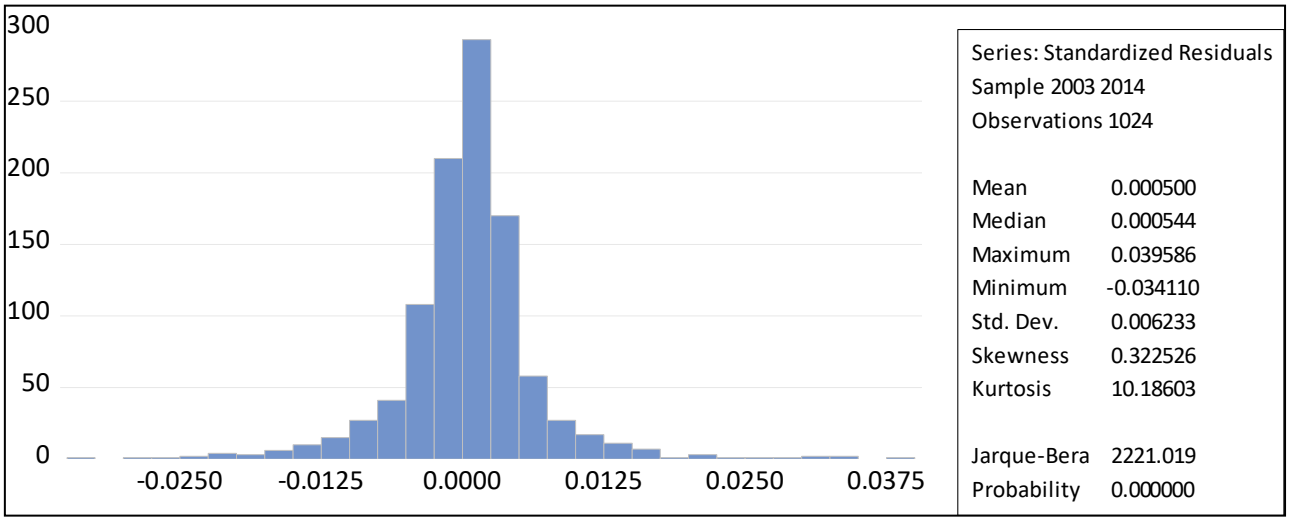
Variable	Coefficient	Std. Error	t-Statistic	Prob.
GOLD_RESERVES_TO_GDP(-1)	0.171414	0.000269	636.5608	0.0000
GOLD_RESERVES_TO_GDP(-2)	-0.276995	0.000425	-652.2568	0.0000
RULE_OF_LAW	0.011645	5.28E-05	220.6610	0.0000
INCOME_GROUP	-0.000618	1.38E-05	-44.71166	0.0000
HUMAN_DEVELOPMENT_INDEX_HDI	-0.106824	0.000686	-155.6738	0.0000
TRADE_OPENNESS	1.06E-05	2.66E-07	39.83504	0.0000
CURRENT_ACCOUNT_BALANCE	0.000211	7.30E-07	289.3805	0.0000
FOREIGN_DIRECT_INVESTMENT_...	1.47E-05	4.06E-07	36.06356	0.0000
CAPITAL_ACCOUNT_OPENNESS	-0.035549	0.000256	-138.9488	0.0000
US_EXCHANGE_LOCAL_CURRENCY	2.35E-05	2.57E-07	91.53268	0.0000
GDP_GROWTH	-0.000414	1.04E-06	-397.0162	0.0000
INFLATION	4.22E-05	1.56E-06	27.02244	0.0000
INFLATION_VOLATILITY	-9.77E-09	1.10E-08	-0.889783	0.3738
POPULATION	-4.25E-10	2.91E-11	-14.62906	0.0000
GOLD_RESERVES_CURRENT_USD	3.02E-13	1.63E-15	185.5225	0.0000
GOLD_PRICE_CURRENT_USD	7.70E-06	2.50E-08	308.4907	0.0000
VIX	1.92E-06	3.21E-07	5.965163	0.0000
GLOBAL_LIQUIDITY_MEASURE_CR...	-0.000223	8.35E-07	-267.3866	0.0000

Effects Specification

Cross-section fixed (first differences)

Mean dependent var	0.000272	S.D. dependent var	0.004129
S.E. of regression	0.006306	Sum squared resid	0.040005
J-statistic	76.61126	Instrument rank	88
Prob(J-statistic)	0.274912		





Coefficient Confidence Intervals
Sample: 2000 2014
Included observations: 1024

Variable	Coefficient	90% CI Low	90% CI High	95% CI Low	95% CI High	99% CI Low	99% CI High
GOLD RESERVES...	0.171414	0.170971	0.171857	0.170886	0.171943	0.170719	0.172109
GOLD RESERVES...	-0.276995	-0.277694	-0.276296	-0.277828	-0.276162	-0.278091	-0.275899
RULE OF LAW	0.011645	0.011558	0.011731	0.011541	0.011748	0.011508	0.011781
INCOME GROUP	-0.000618	-0.000641	-0.000596	-0.000645	-0.000591	-0.000654	-0.000583
HUMAN DEVELOP...	-0.106824	-0.107953	-0.105694	-0.108170	-0.105477	-0.108595	-0.105053
TRADE OPENNESS	1.06E-05	1.02E-05	1.10E-05	1.01E-05	1.11E-05	9.91E-06	1.13E-05
CURRENT ACCO...	0.000211	0.000210	0.000212	0.000210	0.000213	0.000209	0.000213
FOREIGN DIRECT ...	1.47E-05	1.40E-05	1.53E-05	1.39E-05	1.55E-05	1.36E-05	1.57E-05
CAPITAL ACCOUN...	-0.035549	-0.035970	-0.035128	-0.036051	-0.035047	-0.036209	-0.034889
US EXCHANGE L...	2.35E-05	2.31E-05	2.39E-05	2.30E-05	2.40E-05	2.29E-05	2.42E-05
GDP GROWTH	-0.000414	-0.000415	-0.000412	-0.000416	-0.000412	-0.000416	-0.000411
INFLATION	4.22E-05	3.96E-05	4.47E-05	3.91E-05	4.52E-05	3.81E-05	4.62E-05
INFLATION VOLATI...	-9.77E-09	-2.78E-08	8.30E-09	-3.13E-08	1.18E-08	-3.81E-08	1.86E-08
POPULATION	-4.25E-10	-4.73E-10	-3.77E-10	-4.82E-10	-3.68E-10	-5.00E-10	-3.50E-10
GOLD RESERVES...	3.02E-13	2.99E-13	3.05E-13	2.99E-13	3.05E-13	2.98E-13	3.06E-13
GOLD PRICE C...	7.70E-06	7.66E-06	7.75E-06	7.66E-06	7.75E-06	7.64E-06	7.77E-06
VIX	1.92E-06	1.39E-06	2.45E-06	1.29E-06	2.55E-06	1.09E-06	2.75E-06
GLOBAL LIQUIDIT...	-0.000223	-0.000225	-0.000222	-0.000225	-0.000222	-0.000225	-0.000221

Arellano-Bond Serial Correlation Test
Equation: MODELGOLDRESERVESPERCAPITA
Sample: 2000 2014
Included observations: 1024

Test order	m-Statistic	rho	SE(rho)	Prob.
AR(1)	NA	-0.001341	NA	NA
AR(2)	0.156448	0.001858	0.011874	0.8757

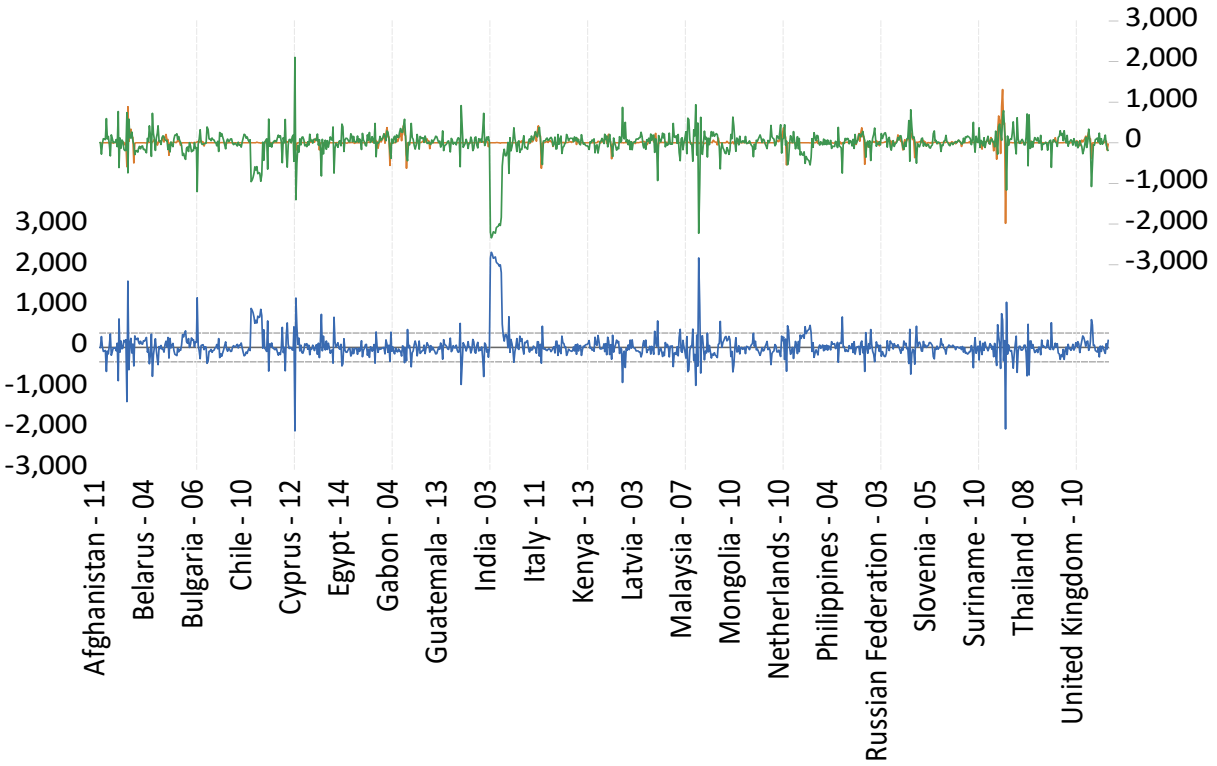
Dependent Variable: GOLD RESERVES PER CAPITA
Method: Panel Generalized Method of Moments
Transformation: First Differences
Sample (adjusted): 2003 2014
Periods included: 12
Cross-sections included: 93
Total panel (unbalanced) observations: 1033
White period instrument weighting matrix
White period standard errors & covariance (d.f. corrected)
Instrument specification: @DYN(GOLD RESERVES PER CAPITA,-2)
Constant added to instrument list

Variable	Coefficient	Std. Error	t-Statistic	Prob.
GOLD RESERVES PER CAPITA(-1)	0.673539	0.000833	808.8155	0.0000
GOLD RESERVES PER CAPITA(-2)	-0.033469	0.000400	-83.71524	0.0000
RULE OF LAW	71.16189	1.885823	37.73518	0.0000
INCOME GROUP	-108.5233	1.272985	-85.25104	0.0000
HUMAN DEVELOPMENT INDEX HDI	12007.32	48.05836	249.8487	0.0000
TRADE OPENNESS	-10.29614	0.045859	-224.5159	0.0000
CURRENT ACCOUNT BALANCE	5.230071	0.058265	89.76292	0.0000
FOREIGN DIRECT INVESTMENT ...	6.308262	0.013296	474.4410	0.0000
CAPITAL ACCOUNT OPENNESS	-1938.417	15.98232	-121.2851	0.0000
US EXCHANGE LOCAL CURRENCY	0.297628	0.018259	16.30068	0.0000
GDP GROWTH	0.794250	0.055847	14.22187	0.0000
INFLATION	0.938980	0.066124	14.20040	0.0000
INFLATION VOLATILITY	-0.000293	0.000302	-0.970825	0.3319
POPULATION	-0.000131	2.84E-06	-46.35093	0.0000
GOLD RESERVES CURRENT USD	6.27E-09	1.59E-10	39.45985	0.0000
GOLD PRICE CURRENT USD	0.141400	0.002057	68.74968	0.0000
VIX	1.787330	0.047798	37.39304	0.0000
GLOBAL LIQUIDITY MEASURE CR...	7.684875	0.073944	103.9277	0.0000

Effects Specification

Cross-section fixed (first differences)

Mean dependent var	15.79708	S.D. dependent var	118.0979
S.E. of regression	353.8486	Sum squared resid	1.27E+08
J-statistic	64.73005	Instrument rank	83
Prob(J-statistic)	0.486110		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Italy - 11
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Latvia - 03
Malaysia - 07
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Residual
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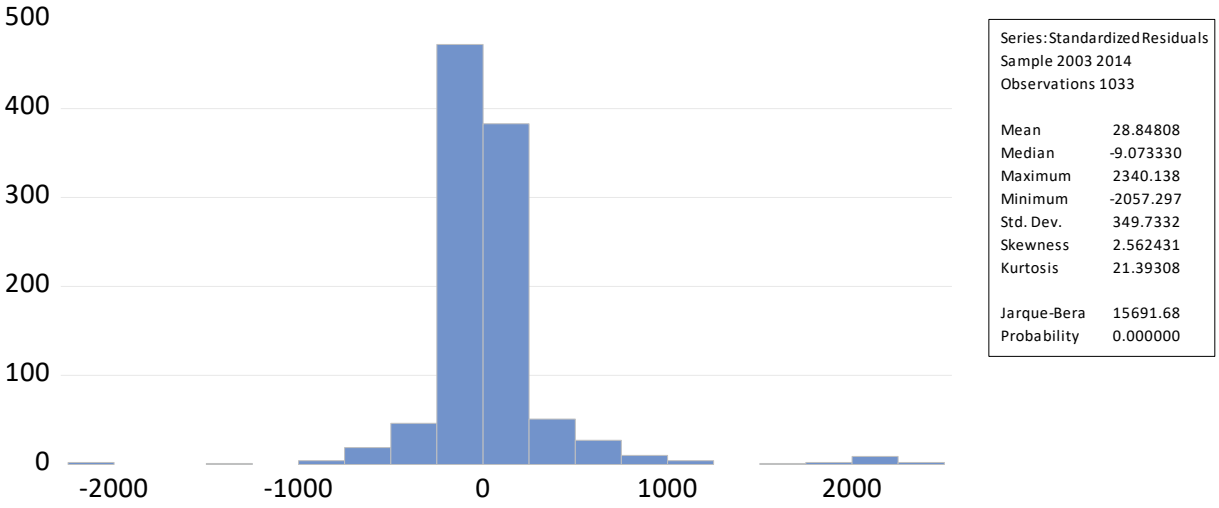
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Series: Standardized Residuals
Sample 2003 2014
Observations 1033
Mean 28.84808
Median -9.073330
Maximum 2340.138
Minimum -2057.297
Std. Dev. 349.7332
Skewness 2.562431
Kurtosis 21.39308
Jarque-Bera 15691.68
Probability 0.000000

Coefficient Confidence Intervals
Sample: 2000 2014
Included observations: 1033

Variable	Coefficient	90% CI Low	90% CI High	95% CI Low	95% CI High	99% CI Low	99% CI High
GOLD RESERVES...	0.673539	0.672168	0.674910	0.671905	0.675173	0.671390	0.675688
GOLD RESERVES...	-0.033469	-0.034127	-0.032811	-0.034253	-0.032684	-0.034500	-0.032437
RULE OF LAW	71.16189	68.05715	74.26662	67.46133	74.86244	66.29518	76.02860
INCOME GROUP	-108.5233	-110.6190	-106.4275	-111.0212	-106.0253	-111.8084	-105.2381
HUMAN DEVELOP...	12007.32	11928.20	12086.44	11913.01	12101.62	11883.30	12131.34
TRADE OPENNESS	-10.29614	-10.37164	-10.22064	-10.38613	-10.20615	-10.41449	-10.17779
CURRENT ACCO...	5.230071	5.134146	5.325997	5.115737	5.344406	5.079707	5.380436
FOREIGN DIRECT ...	6.308262	6.286371	6.330152	6.282170	6.334353	6.273948	6.342575
CAPITAL ACCOUN...	-1938.417	-1964.730	-1912.105	-1969.779	-1907.055	-1979.662	-1897.172
US EXCHANGE L...	0.297628	0.267568	0.327688	0.261799	0.333457	0.250508	0.344748
GDP GROWTH	0.794250	0.702306	0.886194	0.684661	0.903839	0.650127	0.938374
INFLATION	0.938980	0.830117	1.047843	0.809226	1.068735	0.768336	1.109624
INFLATION VOLATI...	-0.000293	-0.000790	0.000204	-0.000886	0.000299	-0.001073	0.000486
POPULATION	-0.000131	-0.000136	-0.000127	-0.000137	-0.000126	-0.000139	-0.000124
GOLD RESERVES...	6.27E-09	6.01E-09	6.53E-09	5.96E-09	6.58E-09	5.86E-09	6.68E-09
GOLD PRICE C...	0.141400	0.138014	0.144786	0.137364	0.145436	0.136092	0.146708
VIX	1.787330	1.708637	1.866023	1.693535	1.881125	1.663977	1.910683
GLOBAL LIQUIDIT...	7.684875	7.563136	7.806614	7.539774	7.829977	7.494048	7.875702

Arellano-Bond Serial Correlation Test
Equation: MODELGOLDRESERVESPERCAPITA
Sample: 2000 2014
Included observations: 1033

Test order	m-Statistic	rho	SE(rho)	Prob.
AR(1)	0.952763	50974715...	53501992...	0.3407
AR(2)	1.251860	57086897...	45601667...	0.2106

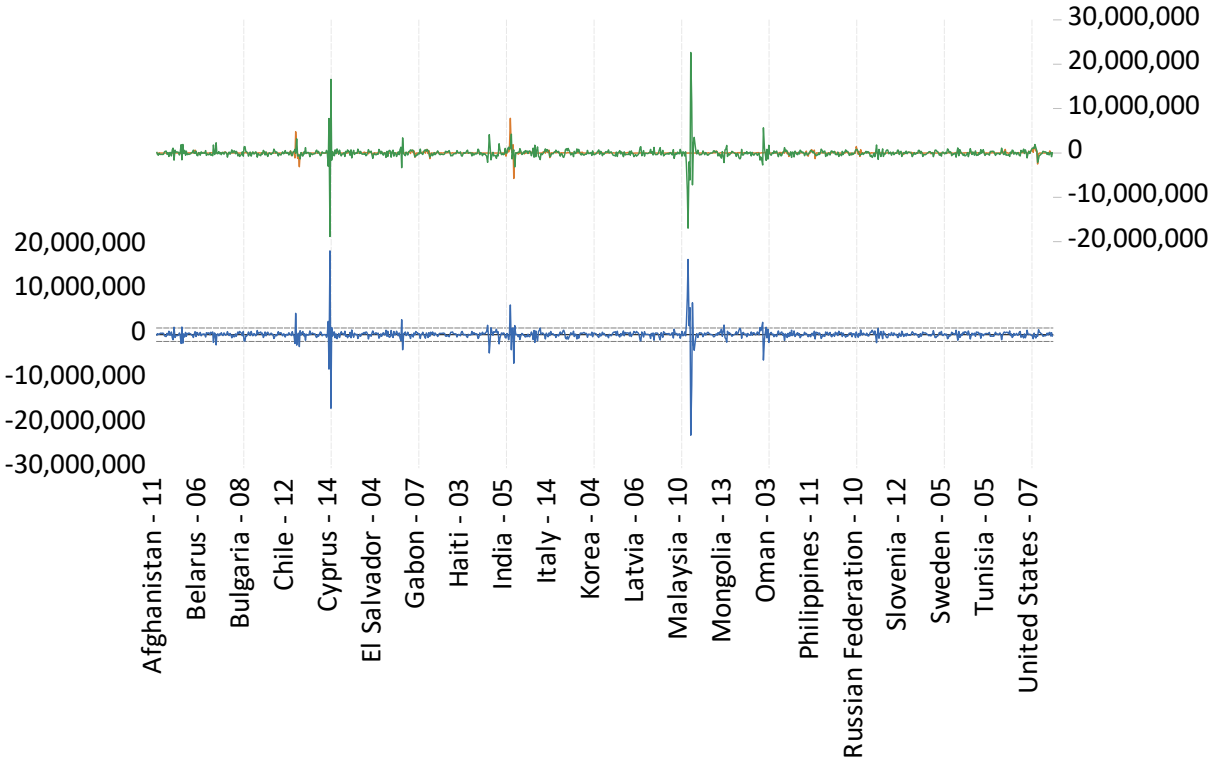
Dependent Variable: GOLD RESERVES TO GDP CAPITA
Method: Panel Generalized Method of Moments
Transformation: First Differences
Sample (adjusted): 2003 2014
Periods included: 12
Cross-sections included: 93
Total panel (unbalanced) observations: 1024
White period instrument weighting matrix
White period standard errors & covariance (d.f. corrected)
Instrument specification: @DYN(GOLD RESERVES TO GDP CAPITA ,-2)
Constant added to instrument list

Variable	Coefficient	Std. Error	t-Statistic	Prob.
GOLD RESERVES TO GDP CAPITA...	0.492763	0.000916	538.1405	0.0000
GOLD RESERVES TO GDP CAPITA...	-0.323204	0.000820	-394.0696	0.0000
RULE OF LAW	850295.1	24877.25	34.17963	0.0000
INCOME GROUP	385287.7	9162.823	42.04902	0.0000
HUMAN DEVELOPMENT INDEX HDI	-29592299	262595.8	-112.6914	0.0000
TRADE OPENNESS	-3656.294	235.0397	-15.55607	0.0000
CURRENT ACCOUNT BALANCE	15133.31	525.7168	28.78604	0.0000
FOREIGN DIRECT INVESTMENT ...	-77238.02	2105.126	-36.69045	0.0000
CAPITAL ACCOUNT OPENNESS	1194150.	18245.88	65.44766	0.0000
US EXCHANGE LOCAL CURRENCY	379.8178	17.93518	21.17725	0.0000
GDP GROWTH	-13459.92	396.2496	-33.96830	0.0000
INFLATION	1048.823	429.8918	2.439738	0.0149
INFLATION VOLATILITY	2.013904	6.369624	0.316173	0.7519
POPULATION	0.041424	0.000203	203.9458	0.0000
GOLD RESERVES CURRENT USD	1.46E-05	1.13E-07	128.8414	0.0000
GOLD PRICE CURRENT USD	1345.429	9.269237	145.1499	0.0000
VIX	24154.90	227.8598	106.0077	0.0000
GLOBAL LIQUIDITY MEASURE CR...	-10022.17	354.1550	-28.29882	0.0000

Effects Specification

Cross-section fixed (first differences)

Mean dependent var	18764.40	S.D. dependent var	410484.9
S.E. of regression	1517861.	Sum squared resid	2.32E+15
J-statistic	69.83053	Instrument rank	87
Prob(J-statistic)	0.449411		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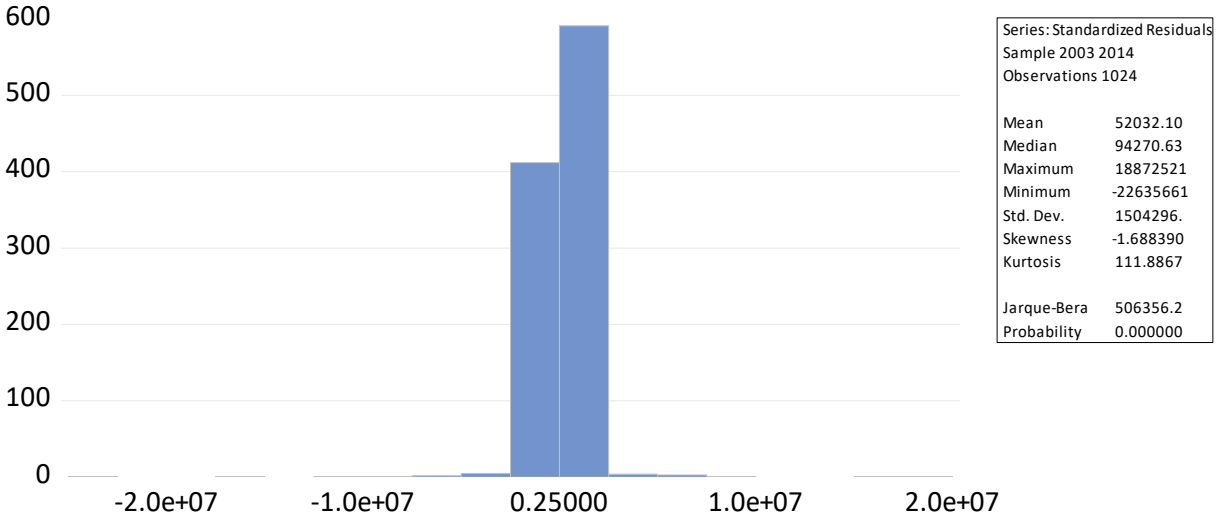
Korea - 04
Latvia - 06
Malaysia - 10
Mongolia - 13
Oman - 03
Philippines - 11
Russian Federation - 10
Slovenia - 12
Sweden - 05
Tunisia - 05
United States - 07


Residual
Actual
Fitted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Series: Standardized Residuals
Sample 2003 2014
Observations 1024
Mean 52032.10
Median 94270.63
Maximum 18872521
Minimum -22635661
Std. Dev. 1504296.
Skewness -1.688390
Kurtosis 111.8867
Jarque-Bera 506356.2
Probability 0.000000

Coefficient Confidence Intervals
Sample: 2000 2014
Included observations: 1024

Variable	Coefficient	90% CI Low	90% CI High	95% CI Low	95% CI High	99% CI Low	99% CI High
GOLD RESERVES...	0.492763	0.491255	0.494270	0.490966	0.494560	0.490400	0.495126
GOLD RESERVES...	-0.323204	-0.324554	-0.321853	-0.324813	-0.321594	-0.325320	-0.321087
RULE OF LAW	850295.1	809338.0	891252.3	801477.9	899112.4	786093.8	914496.5
INCOME GROUP	385287.7	370202.3	400373.1	367307.3	403268.1	361641.0	408934.4
HUMAN DEVELOP...	-29592299	-30024629	-29159969	-30107597	-29077001	-30269986	-28914611
TRADE OPENNESS	-3656.294	-4043.256	-3269.331	-4117.518	-3195.069	-4262.866	-3049.721
CURRENT ACCO...	15133.31	14267.78	15998.83	14101.68	16164.93	13776.58	16490.04
FOREIGN DIRECT ...	-77238.02	-80703.84	-73772.21	-81368.97	-73107.08	-82670.78	-71805.27
CAPITAL ACCOUN...	1194150.	1164111.	1224189.	1158346.	1229954.	1147062.	1241238.
US EXCHANGE L...	379.8178	350.2899	409.3458	344.6232	415.0125	333.5321	426.1036
GDP GROWTH	-13459.92	-14112.30	-12807.55	-14237.49	-12682.35	-14482.54	-12437.31
INFLATION	1048.823	341.0626	1756.584	205.2360	1892.411	-60.60923	2158.256
INFLATION VOLATI...	2.013904	-8.472852	12.50066	-10.48537	14.51318	-14.42434	18.45215
POPULATION	0.041424	0.041090	0.041759	0.041026	0.041823	0.040900	0.041949
GOLD RESERVES...	1.46E-05	1.44E-05	1.48E-05	1.44E-05	1.48E-05	1.43E-05	1.49E-05
GOLD PRICE C...	1345.429	1330.169	1360.690	1327.240	1363.619	1321.508	1369.351
VIX	24154.90	23779.76	24530.04	23707.76	24602.03	23566.86	24742.94
GLOBAL LIQUIDIT...	-10022.17	-10605.24	-9439.099	-10717.14	-9327.202	-10936.15	-9108.192

Arellano-Bond Serial Correlation Test
Equation: MODELGOLDRESERVESTOGDPCAPITARESIDUALSG...
Sample: 2000 2014
Included observations: 1024

Test order	m-Statistic	rho	SE(rho)	Prob.
AR(1)	-0.490944	-349695...	7122915...	0.6235
AR(2)	0.329383	7610962...	2310669...	0.7419

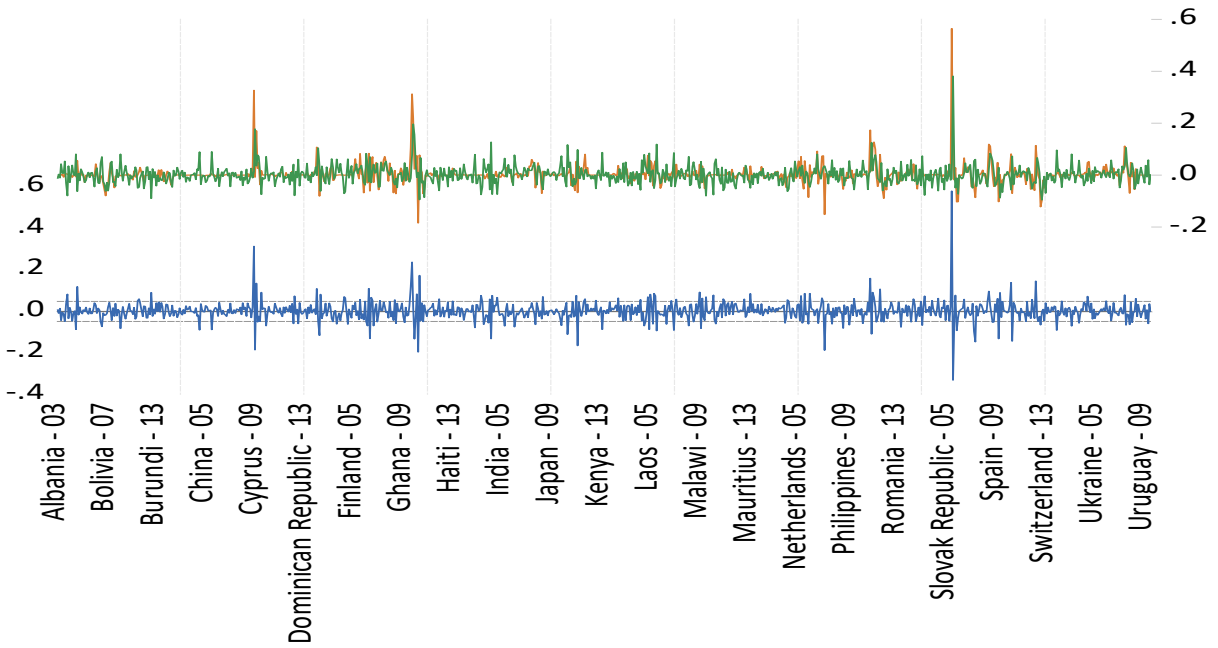
5.1.3. Balanced sample

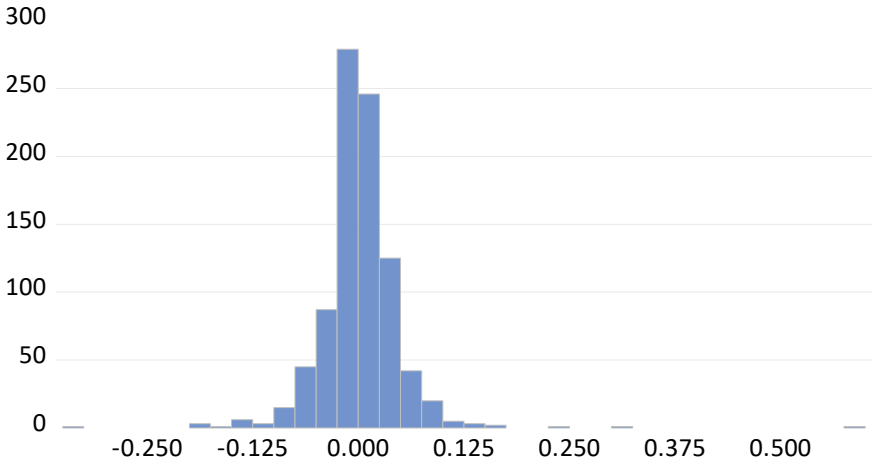
Further robustness testing of this model has been undertaken by transforming the unbalanced sample of 1024 observations and 93 cross sections into a balanced sample of 74 cross sections and 886 observations. The results are as follows:

Dependent Variable: GOLD RESERVES TO TOTAL RESERVES
Method: Panel Generalized Method of Moments
Transformation: First Differences
Sample (adjusted): 2003 2014
Periods included: 12
Cross-sections included: 74
Total panel (balanced) observations: 886
White period instrument weighting matrix
White period standard errors & covariance (d.f. corrected)
Instrument specification: @DYN(GOLD RESERVES TO TOTAL RES
ERVES,-2)
Constant added to instrument list

Variable	Coefficient	Std. Error	t-Statistic	Prob.
GOLD RESERVES TO TOTAL RES...	0.664748	0.005363	123.9513	0.0000
GOLD RESERVES TO TOTAL RES...	-0.028038	0.001891	-14.82366	0.0000
CAPITAL ACCOUNT OPENNESS	-0.125647	0.006052	-20.76179	0.0000
CURRENT ACCOUNT BALANCE	-0.003811	0.000105	-36.34360	0.0000
FOREIGN DIRECT INVESTMENT ...	-2.52E-05	9.13E-06	-2.762024	0.0059
GDP GROWTH	-0.001207	0.000103	-11.70640	0.0000
GLOBAL LIQUIDITY MEASURE CR...	0.001913	5.74E-05	33.31802	0.0000
GOLD PRICE CURRENT USD	5.68E-05	2.15E-06	26.47138	0.0000
GOLD RESERVES CURRENT USD	3.41E-13	4.22E-14	8.078444	0.0000
HUMAN DEVELOPMENT INDEX HDI	-2.001829	0.057417	-34.86450	0.0000
INCOME GROUP	0.068133	0.003150	21.62674	0.0000
INFLATION	0.001114	8.79E-05	12.68174	0.0000
INFLATION VOLATILITY	-2.18E-08	8.02E-09	-2.712916	0.0068
POPULATION	9.16E-10	4.28E-10	2.138197	0.0328
RULE OF LAW	0.098193	0.004487	21.88349	0.0000
TRADE OPENNESS	-0.000310	6.20E-05	-5.000565	0.0000
US EXCHANGE LOCAL CURRENCY	1.01E-05	3.90E-06	2.591153	0.0097
VIX	-0.001640	5.96E-05	-27.50395	0.0000

Effects Specification			
Cross-section fixed (first differences)			
Mean dependent var	0.003109	S.D. dependent var	0.037881
S.E. of regression	0.048260	Sum squared resid	2.021626
J-statistic	55.20943	Instrument rank	74
Prob(J-statistic)	0.504761		





Series: Standardized Residuals
Sample 2003 2014
Observations 886

Mean	0.001514
Median	0.000785
Maximum	0.578644
Minimum	-0.331051
Std. Dev.	0.047771
Skewness	1.822299
Kurtosis	32.59154
Jarque-Bera	32816.78
Probability	0.000000

Coefficient Confidence Intervals
Sample: 2000 2014
Included observations: 886

Variable	Coefficient	90% CI Low	90% CI High	95% CI Low	95% CI High	99% CI Low	99% CI High
GOLD RESERVES...	0.664748	0.655917	0.673579	0.654222	0.675274	0.650904	0.678593
GOLD RESERVES...	-0.028038	-0.031153	-0.024924	-0.031750	-0.024326	-0.032921	-0.023155
CAPITAL ACCOUN...	-0.125647	-0.135612	-0.115682	-0.137525	-0.113769	-0.141270	-0.110024
CURRENT ACCO...	-0.003811	-0.003984	-0.003638	-0.004017	-0.003605	-0.004082	-0.003540
FOREIGN DIRECT ...	-2.52E-05	-4.02E-05	-1.02E-05	-4.31E-05	-7.29E-06	-4.88E-05	-1.65E-06
GDP GROWTH	-0.001207	-0.001377	-0.001037	-0.001409	-0.001004	-0.001473	-0.000941
GLOBAL LIQUIDIT...	0.001913	0.001819	0.002008	0.001800	0.002026	0.001765	0.002061
GOLD PRICE C...	5.68E-05	5.33E-05	6.03E-05	5.26E-05	6.10E-05	5.13E-05	6.24E-05
GOLD RESERVES...	3.41E-13	2.72E-13	4.11E-13	2.58E-13	4.24E-13	2.32E-13	4.50E-13
HUMAN DEVELOP...	-2.001829	-2.096373	-1.907285	-2.114522	-1.889136	-2.150052	-1.853606
INCOME GROUP	0.068133	0.062946	0.073321	0.061950	0.074317	0.060001	0.076266
INFLATION	0.001114	0.000970	0.001259	0.000942	0.001287	0.000887	0.001341
INFLATION VOLATI...	-2.18E-08	-3.50E-08	-8.55E-09	-3.75E-08	-6.02E-09	-4.25E-08	-1.05E-09
POPULATION	9.16E-10	2.11E-10	1.62E-09	7.52E-11	1.76E-09	-1.90E-10	2.02E-09
RULE OF LAW	0.098193	0.090804	0.105581	0.089386	0.107000	0.086609	0.109776
TRADE OPENNESS	-0.000310	-0.000412	-0.000208	-0.000432	-0.000188	-0.000470	-0.000150
US EXCHANGE L...	1.01E-05	3.69E-06	1.65E-05	2.45E-06	1.78E-05	3.77E-08	2.02E-05
VIX	-0.001640	-0.001739	-0.001542	-0.001757	-0.001523	-0.001794	-0.001486

Arellano-Bond Serial Correlation Test
Equation: GOLDRESERVESTOTOTALRESERVESBALANCESAMP...
Sample: 2000 2014
Included observations: 886

Test order	m-Statistic	rho	SE(rho)	Prob.
AR(1)	NA	-0.570207	NA	NA
AR(2)	-0.377445	-0.096348	0.255264	0.7058

5.1.4. Country sub-groups

The model has been tested for two country sub-groups: countries receiving official development aid, and countries not receiving official development aid. In addition to verifying the robustness of the model, this test will add information about the intensity of the determinants. “Official development aid (%) of GDP” can be considered a proxy variable of “income group”. The majority of development aid recipient countries belong to income groups 1, 2 and 3; and group 4 corresponds almost exclusively to countries not receiving development aid –with the exceptions, in our sample, of Chile, Malta, Oman, Saudi Arabia, Slovenia and Uruguay–.

The first robustness test is applied to the countries in the original sample which do not receive official development aid:

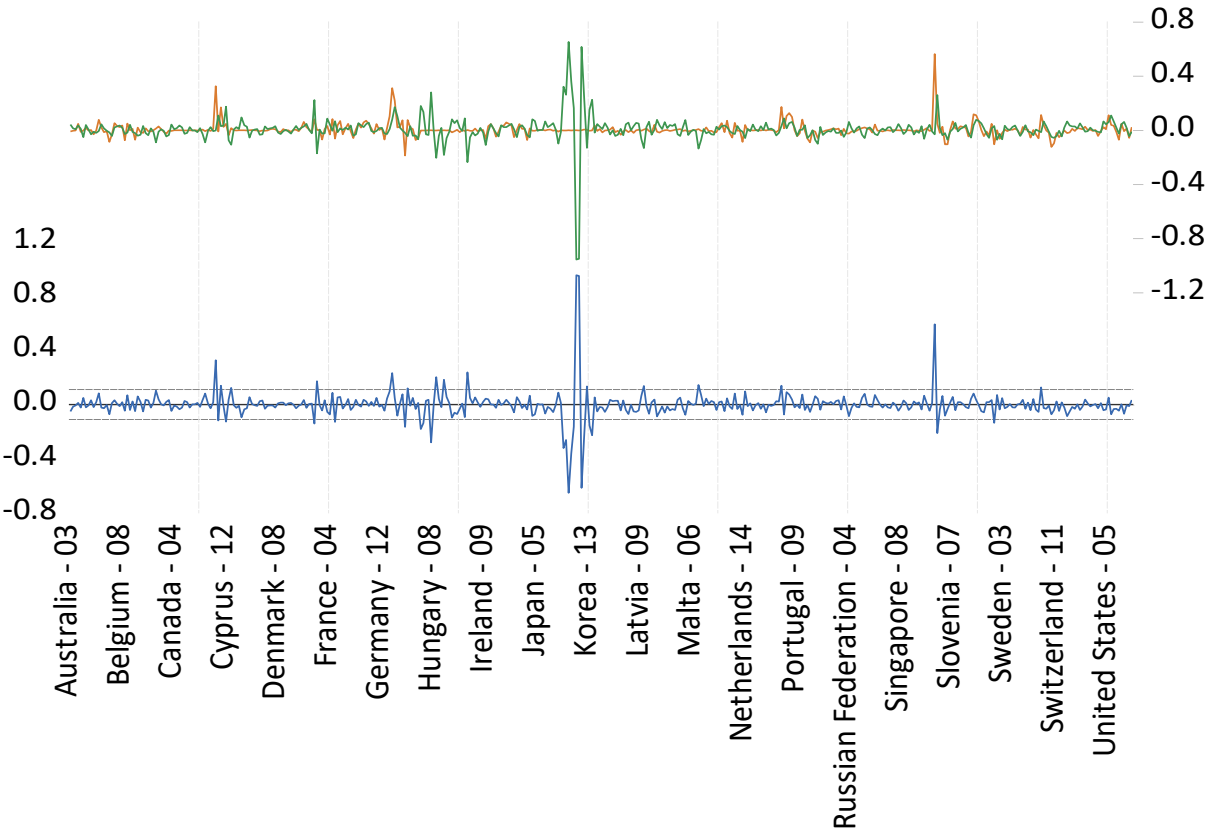
Dependent Variable: GOLD RESERVES TO TOTAL RESERVES
Method: Panel Generalized Method of Moments
Transformation: First Differences
Sample (adjusted): 2003 2014
Periods included: 12
Cross-sections included: 40
Total panel (unbalanced) observations: 410
White period instrument weighting matrix
White period standard errors & covariance (d.f. corrected)
Instrument specification: @DYN(GOLD RESERVES TO TOTAL RES ERVES,-2)
Constant added to instrument list

Variable	Coefficient	Std. Error	t-Statistic	Prob.
GOLD RESERVES TO TOTAL RES...	0.498079	0.061517	8.096662	0.0000
GOLD RESERVES TO TOTAL RES...	-0.050503	0.027048	-1.867191	0.0626
CAPITAL ACCOUNT OPENNESS	-0.269201	0.185194	-1.453610	0.1469
CURRENT ACCOUNT BALANCE	-0.001452	0.001993	-0.728358	0.4668
FOREIGN DIRECT INVESTMENT ...	0.000324	0.000690	0.470232	0.6385
GDP GROWTH	-0.002520	0.001058	-2.382617	0.0177
GLOBAL LIQUIDITY MEASURE CR...	0.003223	0.001271	2.535580	0.0116
GOLD PRICE CURRENT USD	2.39E-05	5.02E-05	0.476284	0.6341
GOLD RESERVES CURRENT USD	3.95E-13	3.58E-13	1.103077	0.2707
HUMAN DEVELOPMENT INDEX HDI	-0.243751	0.911705	-0.267358	0.7893
INCOME GROUP	0.070436	0.042610	1.653049	0.0991
INFLATION	0.010094	0.002108	4.789150	0.0000
INFLATION VOLATILITY	-1.76E-07	2.41E-07	-0.731241	0.4651
POPULATION	7.04E-09	1.26E-08	0.559859	0.5759
RULE OF LAW	0.089162	0.052961	1.683539	0.0931
TRADE OPENNESS	-0.000627	0.000849	-0.738572	0.4606
US EXCHANGE LOCAL CURRENCY	-0.005260	0.003059	-1.719548	0.0863
VIX	-0.002319	0.000376	-6.175860	0.0000

Effects Specification

Cross-section fixed (first differences)

Mean dependent var	0.006795	S.D. dependent var	0.050828
S.E. of regression	0.110070	Sum squared resid	4.749201
J-statistic	20.37534	Instrument rank	39
Prob(J-statistic)	0.497611		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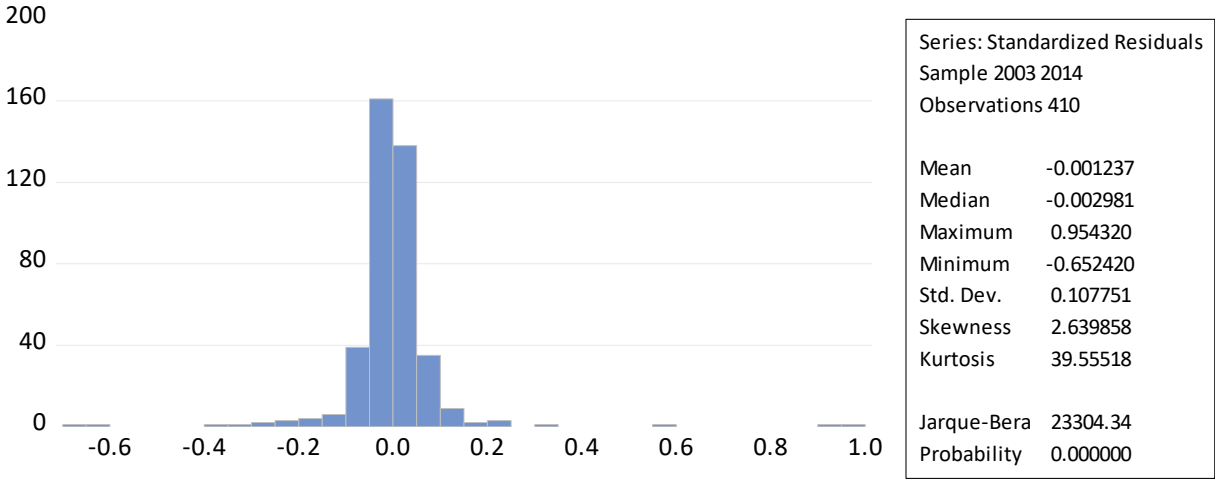
Belgium - 08
Canada - 04
Cyprus - 12
Denmark - 08
France - 04
Germany - 12
Hungary - 08
Ireland - 09
Japan - 05
Korea - 13
Latvia - 09
Malta - 06
Netherlands - 14
Portugal - 09
Russian Federation - 04
Singapore - 08
Slovenia - 07
Sweden - 03
Switzerland - 11
United States - 05


Residual
Actual
Fitted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Series: Standardized Residuals
Sample 2003 2014
Observations 410
Mean -0.001237
Median -0.002981
Maximum 0.954320
Minimum -0.652420
Std. Dev. 0.107751
Skewness 2.639858
Kurtosis 39.55518
Jarque-Bera 23304.34
Probability 0.000000

Coefficient Confidence Intervals
Sample: 2000 2014
Included observations: 410

Variable	Coefficient	90% CI Low	90% CI High	95% CI Low	95% CI High	99% CI Low	99% CI High
GOLD RESERVES...	0.498079	0.396653	0.599504	0.377135	0.619022	0.338848	0.657310
GOLD RESERVES...	-0.050503	-0.095098	-0.005908	-0.103680	0.002673	-0.120514	0.019508
CAPITAL ACCOUN...	-0.269201	-0.574540	0.036139	-0.633299	0.094898	-0.748563	0.210162
CURRENT ACCO...	-0.001452	-0.004738	0.001834	-0.005370	0.002467	-0.006611	0.003707
FOREIGN DIRECT ...	0.000324	-0.000813	0.001462	-0.001032	0.001680	-0.001461	0.002110
GDP GROWTH	-0.002520	-0.004264	-0.000776	-0.004600	-0.000441	-0.005258	0.000218
GLOBAL LIQUIDIT...	0.003223	0.001127	0.005319	0.000724	0.005723	-6.72E-05	0.006514
GOLD PRICE C...	2.39E-05	-5.89E-05	0.000107	-7.48E-05	0.000123	-0.000106	0.000154
GOLD RESERVES...	3.95E-13	-1.95E-13	9.84E-13	-3.09E-13	1.10E-12	-5.31E-13	1.32E-12
HUMAN DEVELOP...	-0.243751	-1.746925	1.259422	-2.036195	1.548692	-2.603635	2.116132
INCOME GROUP	0.070436	0.000183	0.140689	-0.013336	0.154208	-0.039856	0.180728
INFLATION	0.010094	0.006619	0.013569	0.005950	0.014238	0.004639	0.015550
INFLATION VOLATI...	-1.76E-07	-5.74E-07	2.21E-07	-6.50E-07	2.98E-07	-8.00E-07	4.48E-07
POPULATION	7.04E-09	-1.37E-08	2.78E-08	-1.77E-08	3.18E-08	-2.55E-08	3.96E-08
RULE OF LAW	0.089162	0.001842	0.176481	-0.014961	0.193284	-0.047924	0.226247
TRADE OPENNESS	-0.000627	-0.002027	0.000773	-0.002296	0.001042	-0.002825	0.001571
US EXCHANGE L...	-0.005260	-0.010303	-0.000217	-0.011274	0.000754	-0.013177	0.002658
VIX	-0.002319	-0.002938	-0.001700	-0.003057	-0.001581	-0.003291	-0.001347

Arellano-Bond Serial Correlation Test
Sample: 2000 2014
Included observations: 410

Test order	m-Statistic	rho	SE(rho)	Prob.
AR(1)	NA	0.640978	NA	NA
AR(2)	-0.029899	-1.121624	37.514374	0.9761

The following robustness test is applied to countries in the original sample which are recipients of official development aid:

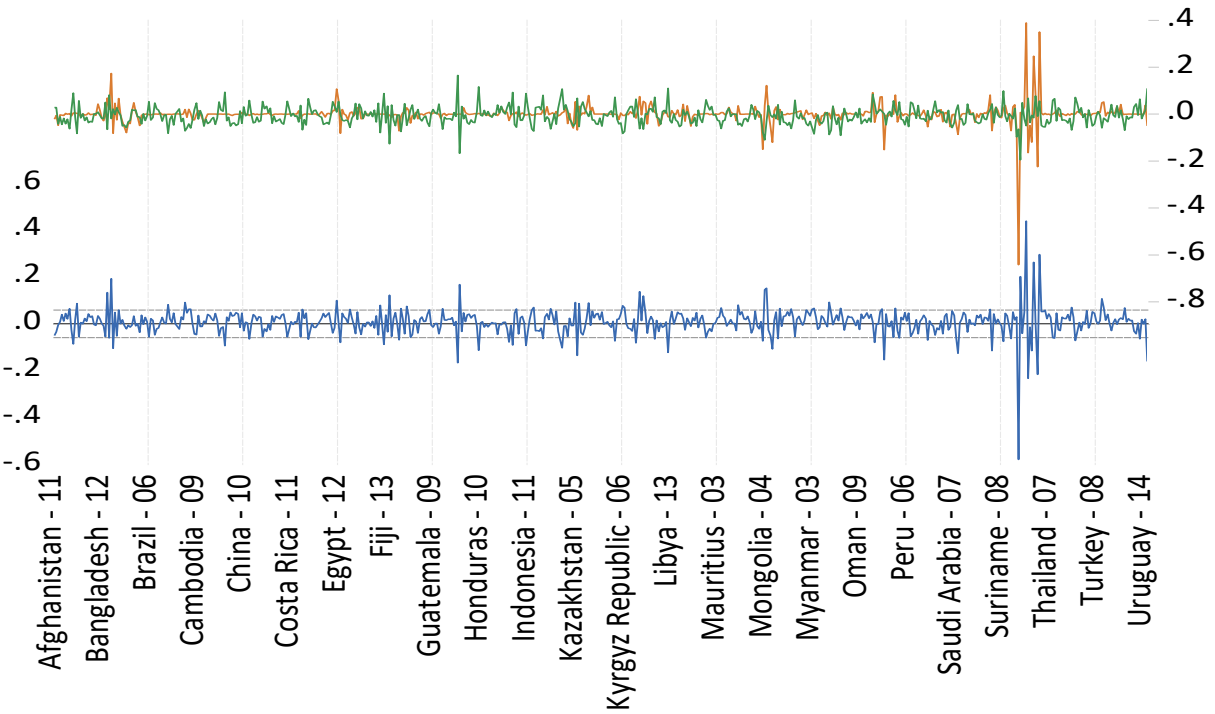
Dependent Variable: GOLD RESERVES TO TOTAL RESERVES
Method: Panel Generalized Method of Moments
Transformation: First Differences
Sample (adjusted): 2003 2014
Periods included: 12
Cross-sections included: 56
Total panel (unbalanced) observations: 578
White period instrument weighting matrix
White period standard errors & covariance (d.f. corrected)
Instrument specification: @DYN(GOLD RESERVES TO TOTAL RES ERVES,-2)
Constant added to instrument list

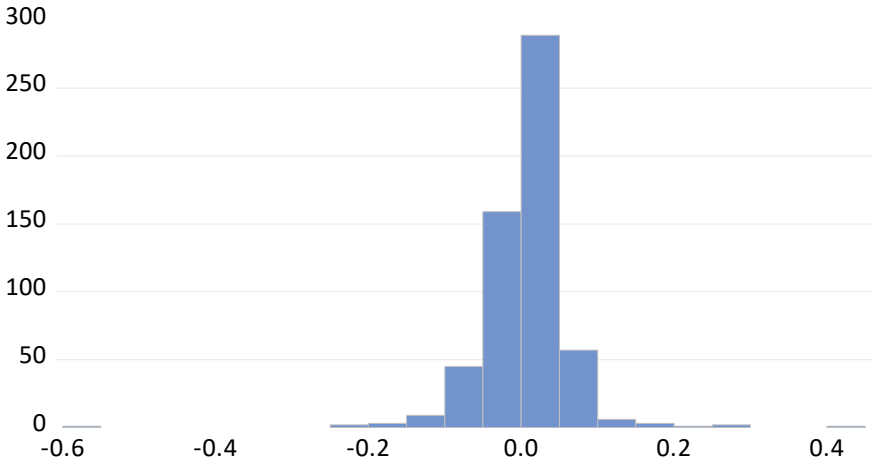
Variable	Coefficient	Std. Error	t-Statistic	Prob.
GOLD RESERVES TO TOTAL RES...	0.257201	0.012765	20.14880	0.0000
GOLD RESERVES TO TOTAL RES...	-0.124366	0.006138	-20.26321	0.0000
CAPITAL ACCOUNT OPENNESS	-0.037319	0.011973	-3.116951	0.0019
CURRENT ACCOUNT BALANCE	-0.000292	0.000206	-1.417760	0.1568
FOREIGN DIRECT INVESTMENT ...	0.000491	0.000305	1.609915	0.1080
GDP GROWTH	0.000358	0.000386	0.927299	0.3542
GLOBAL LIQUIDITY MEASURE CR...	-0.003938	0.000194	-20.31877	0.0000
GOLD PRICE CURRENT USD	5.03E-05	6.33E-06	7.950693	0.0000
GOLD RESERVES CURRENT USD	-4.11E-12	1.92E-12	-2.142277	0.0326
HUMAN DEVELOPMENT INDEX HDI	-2.507613	0.100736	-24.89290	0.0000
INCOME GROUP	0.064674	0.002659	24.32053	0.0000
INFLATION	0.001681	6.63E-05	25.34899	0.0000
INFLATION VOLATILITY	-0.000480	4.53E-05	-10.58718	0.0000
POPULATION	2.15E-09	5.51E-10	3.902998	0.0001
RULE OF LAW	0.057435	0.009018	6.368790	0.0000
TRADE OPENNESS	-0.002319	8.79E-05	-26.36902	0.0000
US EXCHANGE LOCAL CURRENCY	-5.75E-05	4.47E-06	-12.87915	0.0000
VIX	-0.000190	6.53E-05	-2.904008	0.0038

Effects Specification

Cross-section fixed (first differences)

Mean dependent var	-0.000708	S.D. dependent var	0.040678
S.E. of regression	0.058986	Sum squared resid	1.948409
J-statistic	45.42357	Instrument rank	57
Prob(J-statistic)	0.222006		





Series: Standardized Residuals	
Sample 2003 2014	
Observations 578	
Mean	0.007534
Median	0.010571
Maximum	0.437961
Minimum	-0.578300
Std. Dev.	0.057619
Skewness	-1.030592
Kurtosis	28.50946
Jarque-Bera	15774.12
Probability	0.000000

Coefficient Confidence Intervals
Sample: 2000 2014
Included observations: 578

Variable	Coefficient	90% CI Low	90% CI High	95% CI Low	95% CI High	99% CI Low	99% CI High
GOLD_RESERVES...	0.257201	0.236170	0.278233	0.232128	0.282275	0.224208	0.290194
GOLD_RESERVES...	-0.124366	-0.134478	-0.114254	-0.136421	-0.112310	-0.140229	-0.108502
CAPITAL_ACCOUN...	-0.037319	-0.057045	-0.017593	-0.060836	-0.013802	-0.068265	-0.006373
CURRENT_ACCO...	-0.000292	-0.000632	4.74E-05	-0.000697	0.000113	-0.000825	0.000241
FOREIGN DIRECT ...	0.000491	-1.15E-05	0.000994	-0.000108	0.001091	-0.000298	0.001280
GDP GROWTH	0.000358	-0.000278	0.000994	-0.000400	0.001117	-0.000640	0.001356
GLOBAL LIQUIDIT...	-0.003938	-0.004257	-0.003619	-0.004319	-0.003557	-0.004439	-0.003437
GOLD PRICE C...	5.03E-05	3.99E-05	6.08E-05	3.79E-05	6.28E-05	3.40E-05	6.67E-05
GOLD RESERVES...	-4.11E-12	-7.26E-12	-9.48E-13	-7.87E-12	-3.41E-13	-9.06E-12	8.48E-13
HUMAN DEVELOP...	-2.507613	-2.673583	-2.341642	-2.705479	-2.309746	-2.767979	-2.247247
INCOME GROUP	0.064674	0.060293	0.069056	0.059451	0.069898	0.057801	0.071548
INFLATION	0.001681	0.001572	0.001791	0.001551	0.001812	0.001510	0.001853
INFLATION_VOLATI...	-0.000480	-0.000555	-0.000405	-0.000569	-0.000391	-0.000597	-0.000363
POPULATION	2.15E-09	1.24E-09	3.06E-09	1.07E-09	3.23E-09	7.27E-10	3.58E-09
RULE_OF_LAW	0.057435	0.042576	0.072293	0.039721	0.075148	0.034126	0.080743
TRADE_OPENNESS	-0.002319	-0.002464	-0.002174	-0.002492	-0.002146	-0.002546	-0.002092
US_EXCHANGE_L...	-5.75E-05	-6.49E-05	-5.02E-05	-6.63E-05	-4.88E-05	-6.91E-05	-4.60E-05
VIX	-0.000190	-0.000297	-8.20E-05	-0.000318	-6.13E-05	-0.000358	-2.08E-05

Arellano-Bond Serial Correlation Test
Sample: 2000 2014
Included observations: 578

Test order	m-Statistic	rho	SE(rho)	Prob.
AR(1)	NA	-0.319076	NA	NA
AR(2)	0.000045	0.023441	524.318849	1.0000

5.1.5. Sub-periods (pre-crisis / crisis & post-crisis years)

As with the robustness testing for the modelization of “annual gold management performance”, the same periods will be used to test the robustness of the modelization of the variable “gold reserves to total reserves”. Also, as in the sub-period robustness testing for the variable “annual gold management performance”, using only time lags of the variable as instruments yields poor results in terms of significance. Therefore, all independent variables have been included as instruments in the modelization. The results are as follows:

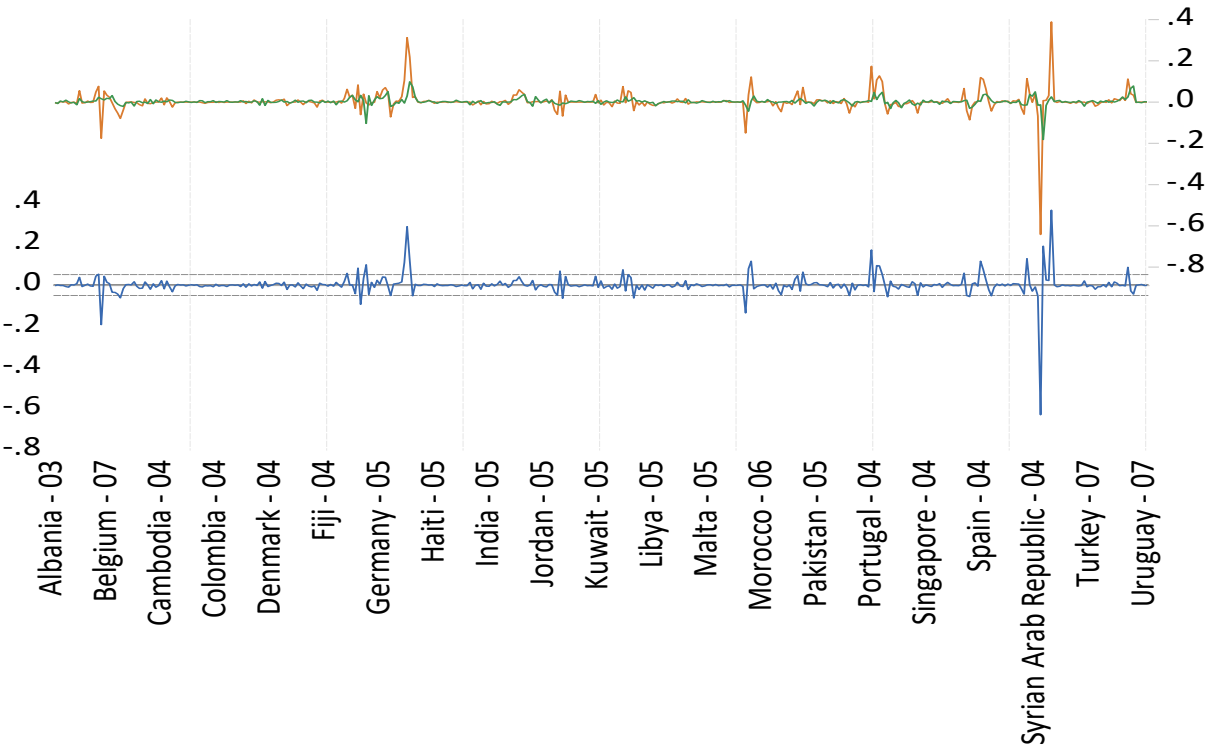
Dependent Variable: GOLD RESERVES TO TOTAL RESERVES
Method: Panel Generalized Method of Moments
Transformation: First Differences
Sample (adjusted): 2003 2007
Periods included: 5
Cross-sections included: 84
Total panel (unbalanced) observations: 401
White period instrument weighting matrix
White period standard errors & covariance (d.f. corrected)
Instrument specification: @DYN(GOLD RESERVES TO TOTAL RES
ERVES,-2) CAPITAL ACCOUNT OPENNESS
CURRENT ACCOUNT BALANCE FOREIGN DIRECT INVESTM
ENT GDP GDP GROWTH GLOBAL LIQUIDITY MEAS
URE CREDIT GDP GOLD PRICE CURRENT USD
GOLD RESERVES CURRENT USD HUMAN DEVELOPMENT
INDEX HDI INCOME GROUP INFLATION INFLATION VOLATI
LITY POPULATION RULE OF LAW TRADE OPENNESS
US EXCHANGE LOCAL CURRENCY VIX
Constant added to instrument list

Variable	Coefficient	Std. Error	t-Statistic	Prob.
GOLD RESERVES TO TOTAL RES...	0.283464	0.038632	7.337482	0.0000
GOLD RESERVES TO TOTAL RES...	0.036826	0.012670	2.906576	0.0039
CAPITAL ACCOUNT OPENNESS	0.003011	0.011393	0.264325	0.7917
CURRENT ACCOUNT BALANCE	-0.000672	0.000435	-1.545788	0.1230
FOREIGN DIRECT INVESTMENT ...	-3.27E-05	4.14E-05	-0.789458	0.4303
GDP GROWTH	-0.000446	0.000357	-1.248939	0.2125
GLOBAL LIQUIDITY MEASURE CR...	0.000741	0.000587	1.264084	0.2070
GOLD PRICE CURRENT USD	-3.51E-05	2.93E-05	-1.197668	0.2318
GOLD RESERVES CURRENT USD	1.13E-12	3.87E-13	2.914537	0.0038
HUMAN DEVELOPMENT INDEX HDI	0.346506	0.145125	2.387641	0.0174
INCOME GROUP	-0.018010	0.005944	-3.029902	0.0026
INFLATION	2.19E-05	0.000146	0.150340	0.8806
INFLATION VOLATILITY	-0.000674	0.000238	-2.831655	0.0049
POPULATION	-1.46E-10	1.69E-10	-0.863131	0.3886
RULE OF LAW	-0.006783	0.009506	-0.713582	0.4759
TRADE OPENNESS	0.000151	0.000121	1.248469	0.2126
US EXCHANGE LOCAL CURRENCY	-7.73E-07	6.40E-06	-0.120699	0.9040
VIX	0.000459	0.000241	1.906882	0.0573

Effects Specification

Cross-section fixed (first differences)

Mean dependent var	0.003092	S.D. dependent var	0.047192
S.E. of regression	0.050993	Sum squared resid	0.995896
J-statistic	19.74471	Instrument rank	36
Prob(J-statistic)	0.347374		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Germany - 05
Haiti - 05
India - 05
Jordan - 05
Kuwait - 05
Libya - 05
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Pakistan - 05
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Singapore - 04
Spain - 04
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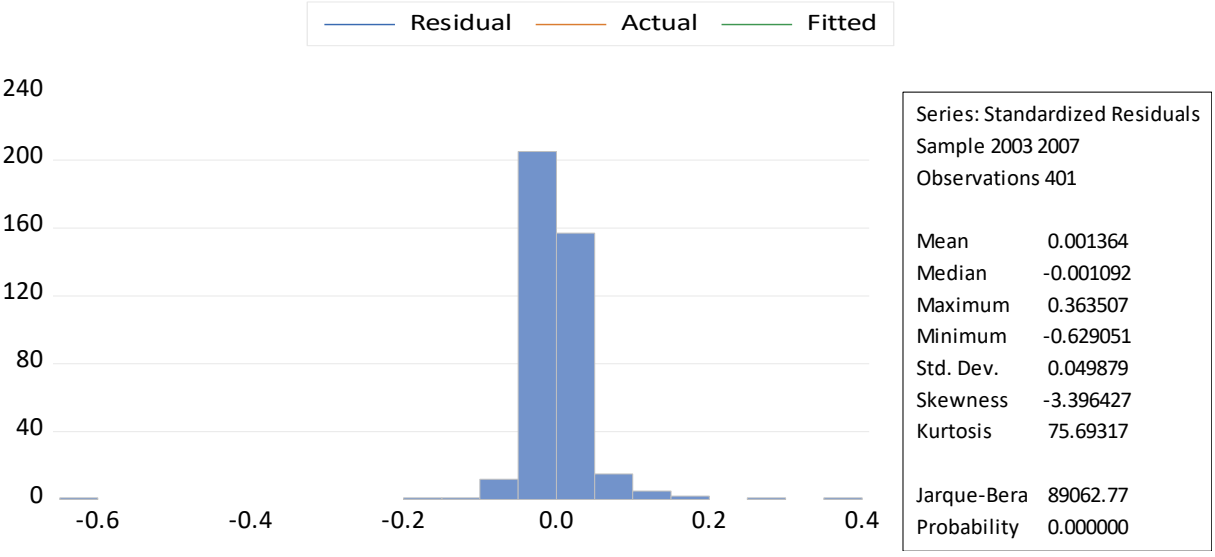
Turkey - 07
Uruguay - 07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-0.4
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0.4
Series: Standardized Residuals
Sample 2003 2007
Observations 401
Mean 0.001364
Median -0.001092
Maximum 0.363507
Minimum -0.629051
Std. Dev. 0.049879
Skewness -3.396427
Kurtosis 75.69317
Jarque-Bera 89062.77
Probability 0.000000

Coefficient Confidence Intervals
Sample: 2000 2007
Included observations: 401

Variable	Coefficient	90% CI Low	90% CI High	95% CI Low	95% CI High	99% CI Low	99% CI High
GOLD_RESERVES...	0.283464	0.219765	0.347162	0.207506	0.359421	0.183455	0.383472
GOLD_RESERVES...	0.036826	0.015935	0.057717	0.011915	0.061737	0.004027	0.069625
CAPITAL_ACCOUN...	0.003011	-0.015773	0.021796	-0.019388	0.025411	-0.026481	0.032503
CURRENT_ACCO...	-0.000672	-0.001389	4.48E-05	-0.001527	0.000183	-0.001797	0.000453
FOREIGN DIRECT ...	-3.27E-05	-0.000101	3.56E-05	-0.000114	4.88E-05	-0.000140	7.46E-05
GDP GROWTH	-0.000446	-0.001036	0.000143	-0.001149	0.000256	-0.001372	0.000479
GLOBAL LIQUIDIT...	0.000741	-0.000226	0.001709	-0.000412	0.001895	-0.000777	0.002260
GOLD RESERVES...	1.13E-12	4.90E-13	1.76E-12	3.67E-13	1.89E-12	1.26E-13	2.13E-12
GOLD PRICE C...	-3.51E-05	-8.35E-05	1.32E-05	-9.28E-05	2.25E-05	-0.000111	4.08E-05
HUMAN DEVELOP...	0.346506	0.107218	0.585795	0.061165	0.631848	-0.029183	0.722195
INCOME GROUP	-0.018010	-0.027811	-0.008209	-0.029697	-0.006323	-0.033398	-0.002622
INFLATION	2.19E-05	-0.000219	0.000263	-0.000265	0.000309	-0.000356	0.000400
INFLATION_VOLATI...	-0.000674	-0.001066	-0.000282	-0.001142	-0.000206	-0.001290	-5.78E-05
POPULATION	-1.46E-10	-4.25E-10	1.33E-10	-4.78E-10	1.86E-10	-5.84E-10	2.92E-10
RULE_OF_LAW	-0.006783	-0.022456	0.008890	-0.025473	0.011907	-0.031390	0.017824
TRADE_OPENNESS	0.000151	-4.85E-05	0.000351	-8.69E-05	0.000389	-0.000162	0.000465
US_EXCHANGE_L...	-7.73E-07	-1.13E-05	9.79E-06	-1.34E-05	1.18E-05	-1.74E-05	1.58E-05
VIX	0.000459	6.22E-05	0.000856	-1.43E-05	0.000933	-0.000164	0.001083

Arellano-Bond Serial Correlation Test
Sample: 2000 2007
Included observations: 401

Test order	m-Statistic	rho	SE(rho)	Prob.
AR(1)	NA	-0.039637	NA	NA
AR(2)	-0.377621	-0.017208	0.045568	0.7057

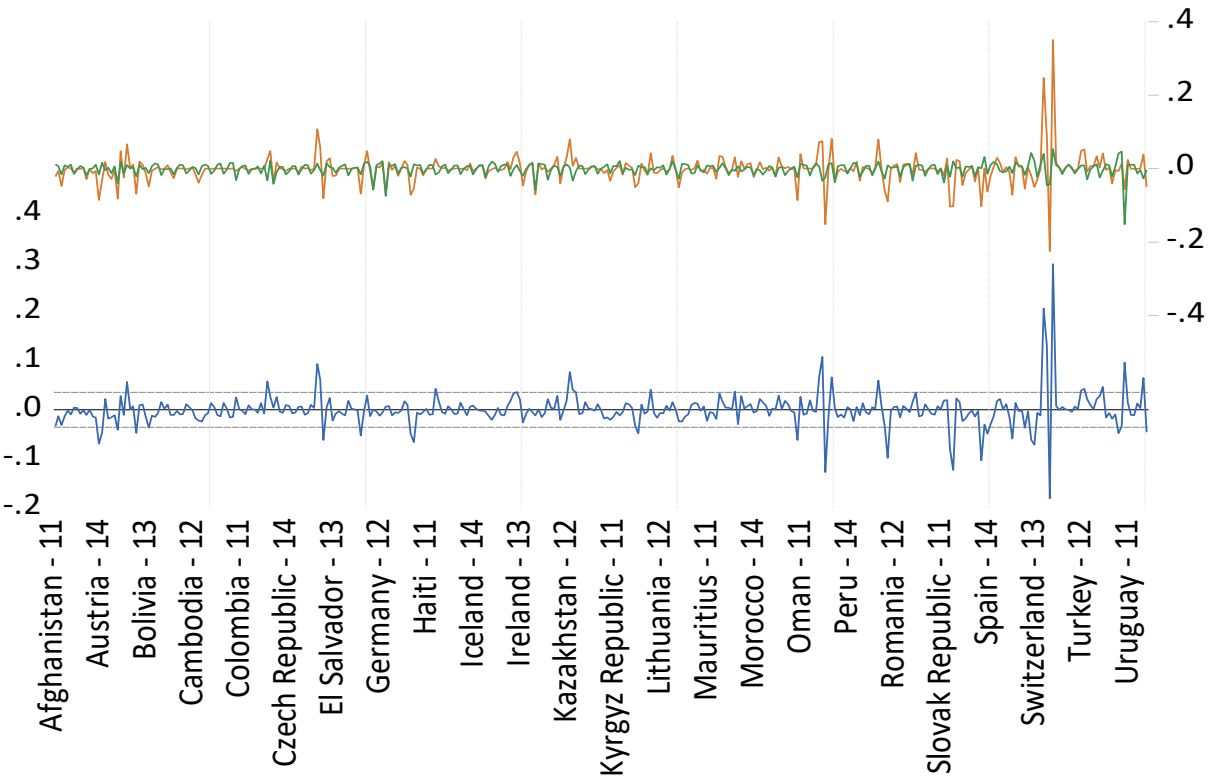
Dependent Variable: GOLD RESERVES TO TOTAL RESERVES
Method: Panel Generalized Method of Moments
Transformation: First Differences
Sample (adjusted): 2011 2014
Periods included: 4
Cross-sections included: 90
Total panel (unbalanced) observations: 351
White period instrument weighting matrix
White period standard errors & covariance (d.f. corrected)
Instrument specification: @DYN(GOLD RESERVES TO TOTAL RES
ERVES,-2) CAPITAL ACCOUNT OPENNESS
CURRENT ACCOUNT BALANCE FOREIGN DIRECT INVESTM
ENT GDP GLOBAL LIQUIDITY MEASURE CREDIT GD
P GOLD PRICE CURRENT USD GDP GROWTH
GOLD RESERVES CURRENT USD HUMAN DEVELOPMENT
INDEX HDI INCOME GROUP INFLATION INFLATION VOLATI
LITY POPULATION RULE OF LAW TRADE OPENNESS
US EXCHANGE LOCAL CURRENCY VIX
Constant added to instrument list

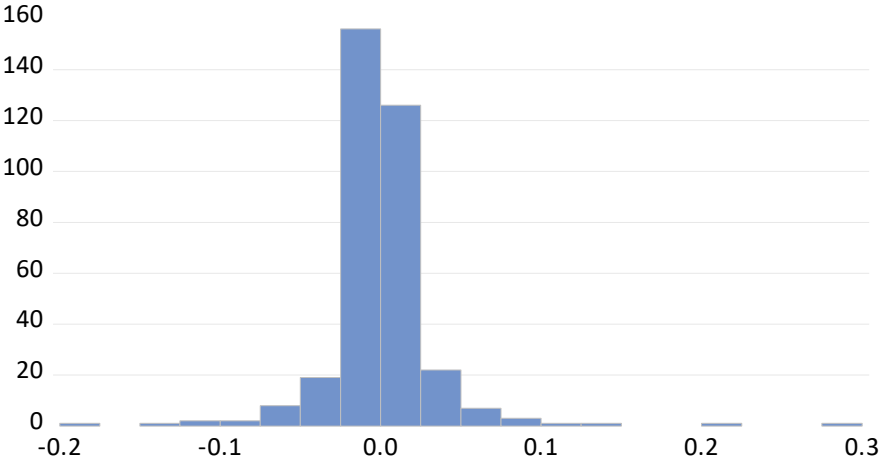
Variable	Coefficient	Std. Error	t-Statistic	Prob.
GOLD RESERVES TO TOTAL RES...	-0.230550	0.108267	-2.129457	0.0339
GOLD RESERVES TO TOTAL RES...	-0.054272	0.020902	-2.596460	0.0098
CAPITAL ACCOUNT OPENNESS	-0.039516	0.016835	-2.347308	0.0195
CURRENT ACCOUNT BALANCE	0.000151	0.000340	0.443330	0.6578
FOREIGN DIRECT INVESTMENT ...	6.67E-05	2.16E-05	3.092528	0.0022
GLOBAL LIQUIDITY MEASURE CR...	-9.87E-05	0.000998	-0.098959	0.9212
GOLD PRICE CURRENT USD	4.40E-05	7.47E-06	5.897115	0.0000
GDP GROWTH	-0.000185	8.85E-05	-2.093195	0.0371
GOLD RESERVES CURRENT USD	1.14E-12	5.55E-13	2.044951	0.0416
HUMAN DEVELOPMENT INDEX HDI	-0.117630	0.253183	-0.464605	0.6425
INCOME GROUP	0.002515	0.003942	0.638034	0.5239
INFLATION	9.54E-05	0.000286	0.333996	0.7386
INFLATION VOLATILITY	8.35E-09	6.87E-09	1.214985	0.2252
POPULATION	1.80E-10	3.21E-10	0.561507	0.5748
RULE OF LAW	-0.011834	0.014726	-0.803588	0.4222
TRADE OPENNESS	-0.000394	0.000222	-1.775835	0.0767
US EXCHANGE LOCAL CURRENCY	7.11E-06	5.60E-06	1.270497	0.2048
VIX	-0.000156	0.000494	-0.316657	0.7517

Effects Specification

Cross-section fixed (first differences)

Mean dependent var	-0.001476	S.D. dependent var	0.038619
S.E. of regression	0.035638	Sum squared resid	0.422921
J-statistic	21.21915	Instrument rank	30
Prob(J-statistic)	0.047262		





Series: Standardized Residuals	
Sample 2011 2014	
Observations 351	
Mean	-0.000462
Median	-0.001888
Maximum	0.297282
Minimum	-0.180904
Std. Dev.	0.034758
Skewness	1.920899
Kurtosis	24.46092
Jarque-Bera	6951.711
Probability	0.000000

Coefficient Confidence Intervals
Sample: 2008 2014
Included observations: 351

Variable	Coefficient	90% CI Low	90% CI High	95% CI Low	95% CI High	99% CI Low	99% CI High
GOLD RESERVES...	-0.230550	-0.409130	-0.051970	-0.443524	-0.017576	-0.511035	0.049935
GOLD RESERVES...	-0.054272	-0.088749	-0.019795	-0.095389	-0.013155	-0.108423	-0.000121
CAPITAL ACCOUN...	-0.039516	-0.067284	-0.011748	-0.072632	-0.006400	-0.083130	0.004097
CURRENT ACCO...	0.000151	-0.000410	0.000712	-0.000519	0.000820	-0.000731	0.001033
FOREIGN DIRECT ...	6.67E-05	3.11E-05	0.000102	2.43E-05	0.000109	1.08E-05	0.000123
GLOBAL LIQUIDIT...	-9.87E-05	-0.001744	0.001547	-0.002061	0.001863	-0.002683	0.002485
GOLD PRICE C...	4.40E-05	3.17E-05	5.64E-05	2.93E-05	5.87E-05	2.47E-05	6.34E-05
GDP GROWTH	-0.000185	-0.000331	-3.93E-05	-0.000359	-1.12E-05	-0.000415	4.40E-05
GOLD RESERVES...	1.14E-12	2.20E-13	2.05E-12	4.32E-14	2.23E-12	-3.03E-13	2.57E-12
HUMAN DEVELOP...	-0.117630	-0.535241	0.299981	-0.615670	0.380410	-0.773545	0.538285
INCOME GROUP	0.002515	-0.003987	0.009016	-0.005239	0.010269	-0.007697	0.012726
INFLATION	9.54E-05	-0.000376	0.000567	-0.000467	0.000658	-0.000645	0.000836
INFLATION VOLATI...	8.35E-09	-2.99E-09	1.97E-08	-5.17E-09	2.19E-08	-9.46E-09	2.62E-08
POPULATION	1.80E-10	-3.49E-10	7.09E-10	-4.51E-10	8.11E-10	-6.51E-10	1.01E-09
RULE OF LAW	-0.011834	-0.036123	0.012456	-0.040801	0.017134	-0.049984	0.026317
TRADE OPENNESS	-0.000394	-0.000760	-2.80E-05	-0.000830	4.24E-05	-0.000969	0.000181
US EXCHANGE L...	7.11E-06	-2.12E-06	1.63E-05	-3.90E-06	1.81E-05	-7.39E-06	2.16E-05
VIX	-0.000156	-0.000971	0.000658	-0.001127	0.000815	-0.001435	0.001123

Arellano-Bond Serial Correlation Test
Sample: 2008 2014
Included observations: 351

Test order	m-Statistic	rho	SE(rho)	Prob.
AR(1)	-0.158506	-0.013903	0.087715	0.8741
AR(2)	NA	-0.014487	NA	NA

5.2. Annual gold management performance

5.2.1. Proxy independent variables

When substituting the 3 independent variables grouped under the equation term DEV with proxy variables selected from the remaining 5 independent variables grouped under the equation term DEV which were not used in the original model –control of corruption, democracy index, political constraint index, GDP per capita nominal and official development aid as a % of GDP–, we observed that most combinations presented high multi-collinearity. Therefore, we have limited the testing of the robustness of the original model with DEV variables to two alternative models:

- In the first one we substitute the variable “rule of law” by “control of corruption”. These two variables present a marked correlation coefficient between themselves (please refer to

correlation matrix) and also present the two highest correlation coefficients with the dependent variable under study.

- In the second model we use “democracy index” and “GDP per capita nominal”, instead of “rule of law”, “control of corruption” and “income group”

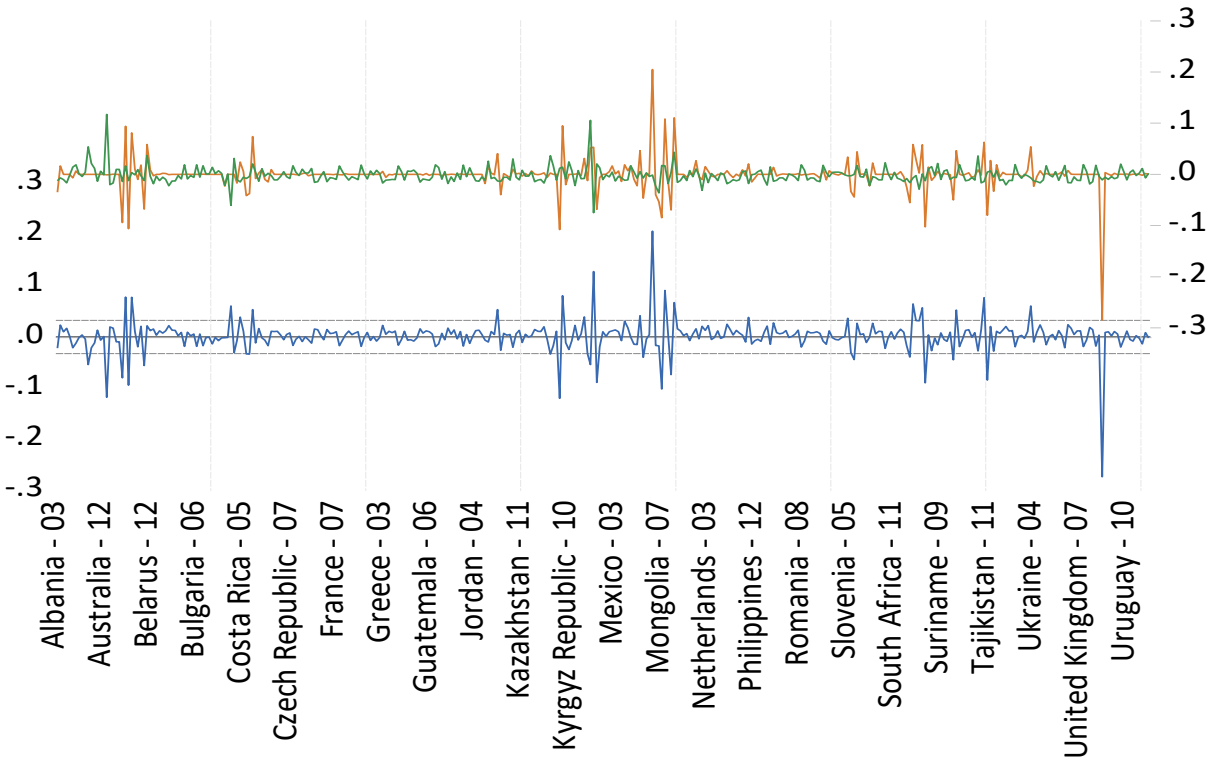
Dependent Variable: ANNUAL GOLD MANAGEMENT PERFORMANCE
Method: Panel Generalized Method of Moments
Transformation: First Differences
Sample (adjusted): 2003 2014
Periods included: 12
Cross-sections included: 56
Total panel (unbalanced) observations: 353
White period instrument weighting matrix
White period standard errors & covariance (d.f. corrected)
Instrument specification: @DYN(ANNUAL GOLD MANAGEMENT PER FORMANCE,-2)
Constant added to instrument list

Variable	Coefficient	Std. Error	t-Statistic	Prob.
ANNUAL GOLD MANAGEMENT PER...	-0.102351	0.000708	-144.5637	0.0000
ANNUAL GOLD MANAGEMENT PER...	-0.000388	5.24E-06	-73.95844	0.0000
CONTROL OF CORRUPTION	0.020507	0.000178	115.0193	0.0000
INCOME_GROUP	0.006425	0.000116	55.23804	0.0000
HUMAN DEVELOPMENT INDEX HDI	0.030097	0.009784	3.076183	0.0023
TRADE_OPENNESS	0.000563	8.80E-06	63.94133	0.0000
CURRENT ACCOUNT BALANCE	0.000832	1.26E-05	66.23773	0.0000
FOREIGN DIRECT INVESTMENT ...	0.000312	7.43E-06	41.95783	0.0000
CAPITAL ACCOUNT OPENNESS	0.033752	0.000868	38.86469	0.0000
US EXCHANGE LOCAL CURRENCY	3.58E-05	8.08E-07	44.33417	0.0000
GDP GROWTH	0.000142	1.63E-05	8.703910	0.0000
INFLATION	-8.23E-05	6.79E-06	-12.13009	0.0000
INFLATION_VOLATILITY	-0.000172	4.93E-05	-3.497056	0.0005
POPULATION	-6.79E-10	4.85E-11	-14.00300	0.0000
GOLD_RESERVES__CURRENT_USD_	-1.35E-13	2.70E-14	-4.986112	0.0000
GOLD PRICE CURRENT USD	-9.24E-06	3.28E-07	-28.16592	0.0000
VIX	0.001303	5.73E-06	227.4074	0.0000
GLOBAL LIQUIDITY MEASURE CR...	-0.001800	1.48E-05	-121.5010	0.0000

Effects Specification

Cross-section fixed (first differences)

Mean dependent var	0.000725	S.D. dependent var	0.021421
S.E. of regression	0.032500	Sum squared resid	0.353855
J-statistic	34.12332	Instrument rank	51
Prob(J-statistic)	0.413449		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France - 07
Greece - 03
Guatemala - 06
Jordan - 04
Kazakhstan - 11
Kyrgyz Republic - 10
Mexico - 03
Mongolia - 07
Netherlands - 03
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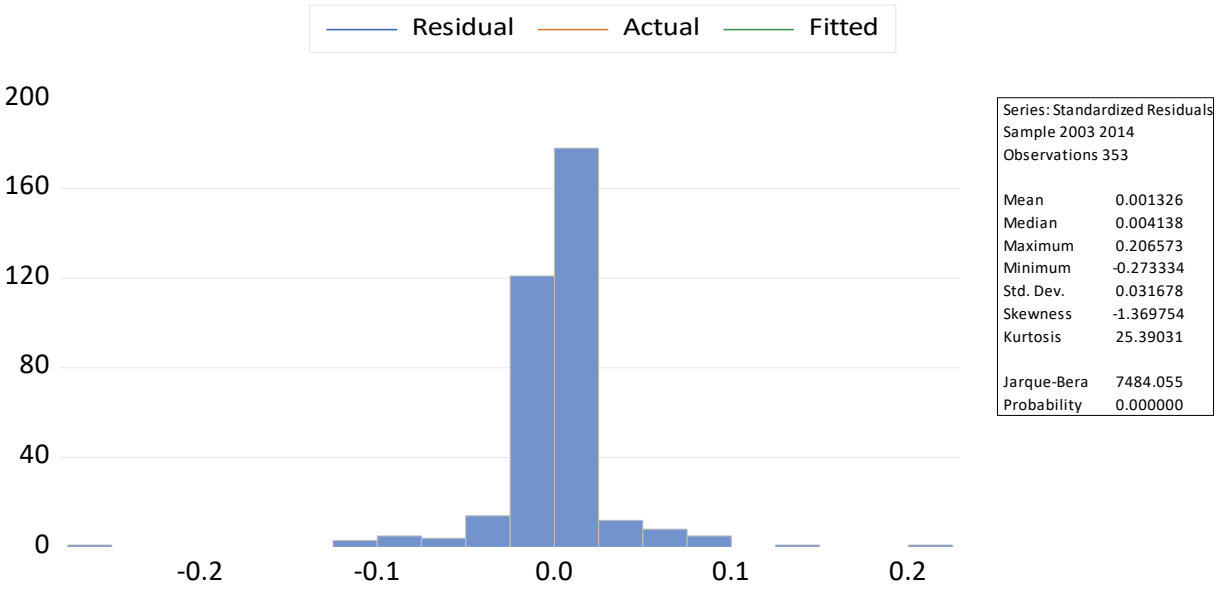
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Actual
Fitted
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160
120
80
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0.2
Series: Standardized Residuals
Sample 2003 2014
Observations 353
Mean 0.001326
Median 0.004138
Maximum 0.206573
Minimum -0.273334
Std. Dev. 0.031678
Skewness -1.369754
Kurtosis 25.39031
Jarque-Bera 7484.055
Probability 0.000000

Coefficient Confidence Intervals
Sample: 2000 2014
Included observations: 353

Variable	Coefficient	90% CI		95% CI		99% CI	
		Low	High	Low	High	Low	High
ANNUAL_GOLD_M...	-0.102351	-0.103519	-0.101183	-0.103744	-0.100958	-0.104185	-0.100517
ANNUAL_GOLD_M...	-0.000388	-0.000396	-0.000379	-0.000398	-0.000377	-0.000401	-0.000374
CONTROL_OF_C...	0.020507	0.020213	0.020801	0.020156	0.020857	0.020045	0.020969
INCOME_GROUP	0.006425	0.006233	0.006617	0.006196	0.006654	0.006124	0.006726
HUMAN_DEVELOP...	0.030097	0.013959	0.046235	0.010851	0.049343	0.004751	0.055443
TRADE_OPENNESS	0.000563	0.000548	0.000577	0.000546	0.000580	0.000540	0.000586
CURRENT_ACCO...	0.000832	0.000811	0.000852	0.000807	0.000856	0.000799	0.000864
FOREIGN_DIRECT_...	0.000312	0.000300	0.000324	0.000297	0.000326	0.000293	0.000331
CAPITAL_ACCOUN...	0.033752	0.032320	0.035185	0.032044	0.035461	0.031503	0.036002
US_EXCHANGE_L...	3.58E-05	3.45E-05	3.71E-05	3.42E-05	3.74E-05	3.37E-05	3.79E-05
GDP_GROWTH	0.000142	0.000115	0.000169	0.000110	0.000174	9.97E-05	0.000184
INFLATION	-8.23E-05	-9.35E-05	-7.11E-05	-9.57E-05	-6.90E-05	-9.99E-05	-6.47E-05
INFLATION_VOLATI...	-0.000172	-0.000254	-9.10E-05	-0.000269	-7.54E-05	-0.000300	-4.47E-05
POPULATION	-6.79E-10	-7.59E-10	-5.99E-10	-7.74E-10	-5.84E-10	-8.04E-10	-5.53E-10
GOLD_RESERVES...	-1.35E-13	-1.79E-13	-9.01E-14	-1.88E-13	-8.15E-14	-2.05E-13	-6.47E-14
GOLD_PRICE_C...	-9.24E-06	-9.78E-06	-8.70E-06	-9.88E-06	-8.59E-06	-1.01E-05	-8.39E-06
VIX	0.001303	0.001294	0.001313	0.001292	0.001315	0.001289	0.001318
GLOBAL_LIQUIDIT...	-0.001800	-0.001825	-0.001776	-0.001829	-0.001771	-0.001839	-0.001762

Arellano-Bond Serial Correlation Test
Equation: MODELANNUALGOLDMANAGEMENTPERFORMANCEROBUSTNESSTESTCONTROLCORRUPTION
Sample: 2000 2014
Included observations: 353

Test order	m-Statistic	rho	SE(rho)	Prob.
AR(1)	NA	-0.079203	NA	NA
AR(2)	0.003033	0.000718	0.236584	0.9976

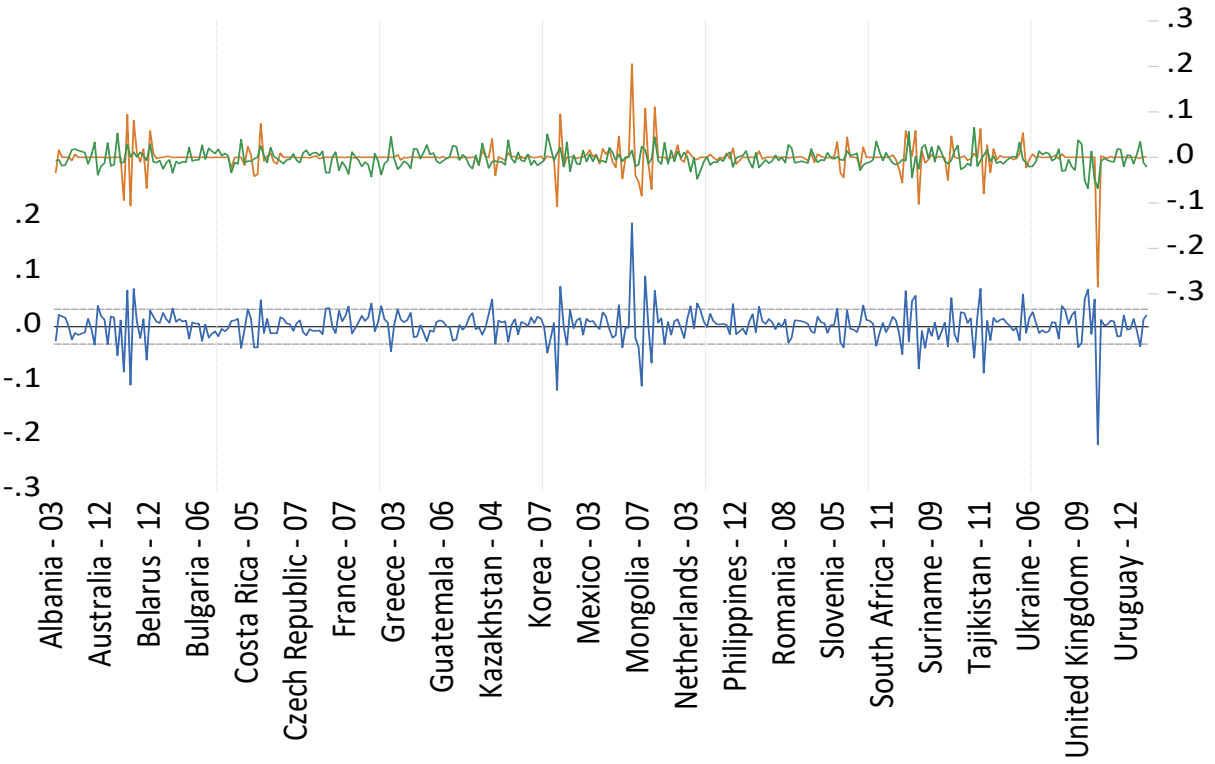
Dependent Variable: ANNUAL GOLD MANAGEMENT PERFORMANCE
Method: Panel Generalized Method of Moments
Transformation: First Differences
Sample (adjusted): 2003 2014
Periods included: 12
Cross-sections included: 54
Total panel (unbalanced) observations: 336
White period instrument weighting matrix
White period standard errors & covariance (d.f. corrected)
Instrument specification: @DYN(ANNUAL GOLD MANAGEMENT PER FORMANCE,-2)
Constant added to instrument list

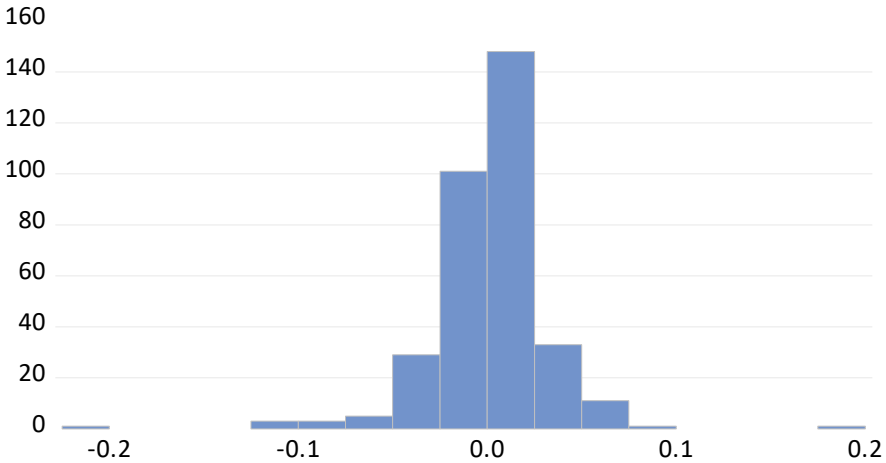
Variable	Coefficient	Std. Error	t-Statistic	Prob.
ANNUAL GOLD MANAGEMENT PER...	-0.152065	0.002255	-67.43994	0.0000
ANNUAL GOLD MANAGEMENT PER...	-0.000727	8.63E-06	-84.16906	0.0000
DEMOCRACY INDEX	-0.005444	0.002866	-1.899750	0.0584
GDP PER CAPITA NOMINAL	-3.02E-06	6.50E-08	-46.38882	0.0000
HUMAN DEVELOPMENT INDEX HDI	0.614400	0.029928	20.52943	0.0000
TRADE OPENNESS	0.000522	2.12E-05	24.64299	0.0000
CURRENT ACCOUNT BALANCE	0.001638	4.20E-05	39.01371	0.0000
FOREIGN DIRECT INVESTMENT ...	0.000795	4.11E-05	19.36078	0.0000
CAPITAL ACCOUNT OPENNESS	0.051888	0.001476	35.14469	0.0000
US EXCHANGE LOCAL CURRENCY	1.11E-05	2.17E-06	5.118775	0.0000
GDP GROWTH	0.000390	1.80E-05	21.64370	0.0000
INFLATION	-0.000558	2.93E-05	-19.02187	0.0000
INFLATION VOLATILITY	-0.000123	9.37E-05	-1.313067	0.1901
POPULATION	-1.27E-09	9.24E-11	-13.75485	0.0000
GOLD RESERVES CURRENT USD	-1.13E-12	2.45E-13	-4.590081	0.0000
GOLD PRICE CURRENT USD	3.81E-06	1.12E-06	3.415198	0.0007
VIX	0.001598	1.93E-05	82.79320	0.0000
GLOBAL LIQUIDITY MEASURE CR...	-0.001930	6.62E-05	-29.16774	0.0000

Effects Specification

Cross-section fixed (first differences)

Mean dependent var	0.000552	S.D. dependent var	0.021705
S.E. of regression	0.031817	Sum squared resid	0.321917
J-statistic	29.36256	Instrument rank	48
Prob(J-statistic)	0.498616		





Series: Standardized Residuals	
Sample 2003 2014	
Observations 336	
Mean	0.001773
Median	0.005406
Maximum	0.189626
Minimum	-0.216295
Std. Dev.	0.030948
Skewness	-0.755651
Kurtosis	14.84935
Jarque-Bera	1997.674
Probability	0.000000

Coefficient Confidence Intervals
Sample: 2000 2014
Included observations: 336

Variable	Coefficient	90% CI		95% CI		99% CI	
		Low	High	Low	High	Low	High
ANNUAL_GOLD_M...	-0.152065	-0.155784	-0.148345	-0.156501	-0.147628	-0.157908	-0.146222
ANNUAL_GOLD_M...	-0.000727	-0.000741	-0.000712	-0.000744	-0.000710	-0.000749	-0.000704
DEMOCRACY_INDEX	-0.005444	-0.010171	-0.000717	-0.011082	0.000194	-0.012870	0.001982
GDP_PER_CAPITA...	-3.02E-06	-3.12E-06	-2.91E-06	-3.14E-06	-2.89E-06	-3.18E-06	-2.85E-06
HUMAN_DEVELOP...	0.614400	0.565029	0.663770	0.555518	0.673281	0.536845	0.691954
TRADE_OPENNESS	0.000522	0.000487	0.000556	0.000480	0.000563	0.000467	0.000576
CURRENT_ACCO...	0.001638	0.001568	0.001707	0.001555	0.001720	0.001529	0.001746
FOREIGN_DIRECT_...	0.000795	0.000728	0.000863	0.000715	0.000876	0.000689	0.000902
CAPITAL_ACCOUN...	0.051888	0.049453	0.054324	0.048983	0.054793	0.048062	0.055714
US_EXCHANGE_L...	1.11E-05	7.52E-06	1.47E-05	6.84E-06	1.54E-05	5.48E-06	1.67E-05
GDP_GROWTH	0.000390	0.000360	0.000420	0.000355	0.000426	0.000343	0.000437
INFLATION	-0.000558	-0.000606	-0.000509	-0.000615	-0.000500	-0.000634	-0.000482
INFLATION_VOLATI...	-0.000123	-0.000278	3.15E-05	-0.000307	6.13E-05	-0.000366	0.000120
POPULATION	-1.27E-09	-1.42E-09	-1.12E-09	-1.45E-09	-1.09E-09	-1.51E-09	-1.03E-09
GOLD_RESERVES...	-1.13E-12	-1.53E-12	-7.21E-13	-1.61E-12	-6.43E-13	-1.76E-12	-4.90E-13
GOLD_PRICE_C...	3.81E-06	1.97E-06	5.65E-06	1.61E-06	6.00E-06	9.19E-07	6.70E-06
VIX	0.001598	0.001566	0.001629	0.001560	0.001635	0.001548	0.001648
GLOBAL_LIQUIDIT...	-0.001930	-0.002039	-0.001821	-0.002060	-0.001800	-0.002101	-0.001759

Arellano-Bond Serial Correlation Test
Equation: MODELANNUALGOLDMANAGEMENTPERFORMANCE
Sample: 2000 2014
Included observations: 336

Test order	m-Statistic	rho	SE(rho)	Prob.
AR(1)	NA	-0.048636	NA	NA
AR(2)	NA	-0.004351	NA	NA

Finally, within the GLOBAL variable grouping, “global liquidity measure (credit % GDP)” has been substituted by a proxy variable, “TED rate”, for model robustness testing purposes. The results of the alternative modelization are the following:

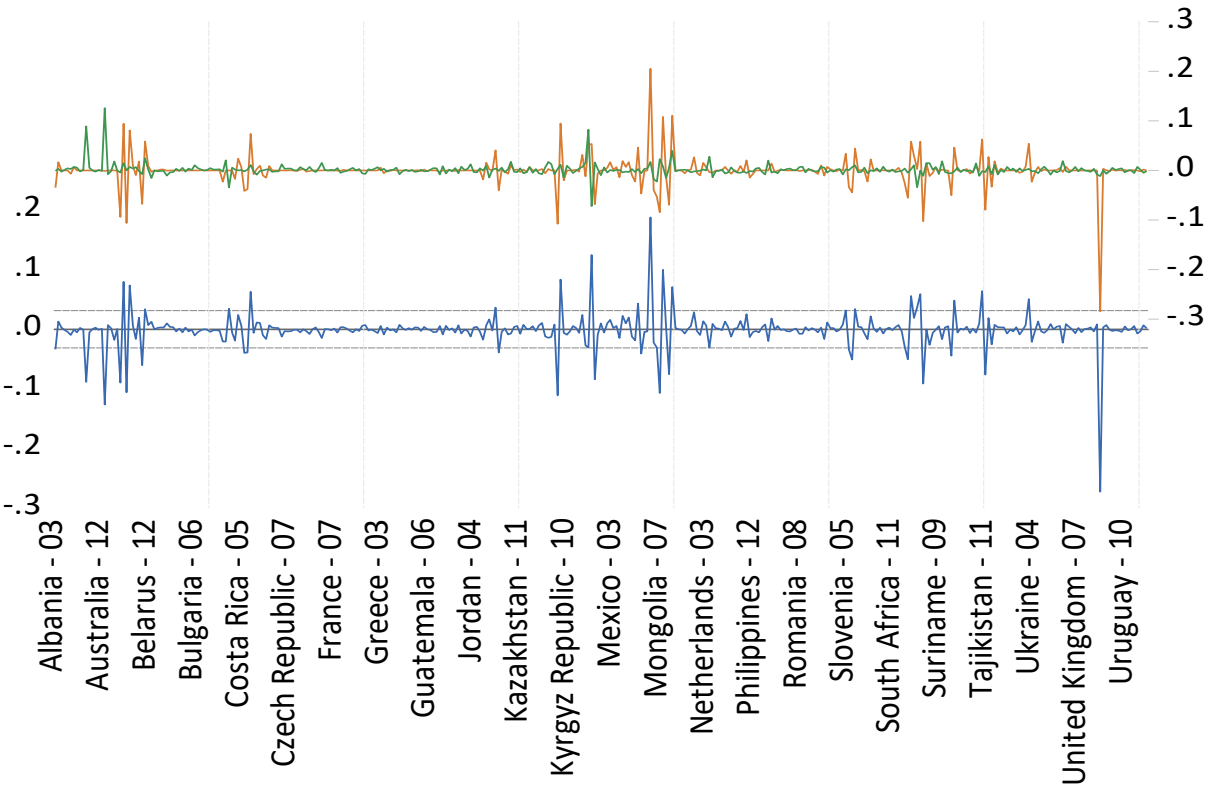
Dependent Variable: ANNUAL GOLD MANAGEMENT PERFORMANCE
Method: Panel Generalized Method of Moments
Transformation: First Differences
Sample (adjusted): 2003 2014
Periods included: 12
Cross-sections included: 56
Total panel (unbalanced) observations: 353
White period instrument weighting matrix
White period standard errors & covariance (d.f. corrected)
Instrument specification: @DYN(ANNUAL GOLD MANAGEMENT PER FORMANCE,-2)
Constant added to instrument list

Variable	Coefficient	Std. Error	t-Statistic	Prob.
ANNUAL GOLD MANAGEMENT PER...	-0.101207	0.002844	-35.58273	0.0000
ANNUAL GOLD MANAGEMENT PER...	0.000649	4.24E-06	153.0554	0.0000
RULE OF LAW	0.033003	0.000808	40.86343	0.0000
INCOME GROUP	0.002541	0.000625	4.068965	0.0001
HUMAN DEVELOPMENT INDEX HDI	0.099695	0.012947	7.700387	0.0000
TRADE OPENNESS	0.000300	1.47E-05	20.46303	0.0000
CURRENT ACCOUNT BALANCE	0.000522	1.57E-05	33.29045	0.0000
FOREIGN DIRECT INVESTMENT ...	0.000249	1.55E-05	16.07479	0.0000
CAPITAL ACCOUNT OPENNESS	0.007375	0.000961	7.677176	0.0000
US EXCHANGE LOCAL CURRENCY	5.70E-05	8.58E-07	66.40857	0.0000
GDP GROWTH	-0.000315	1.89E-05	-16.70629	0.0000
INFLATION	4.47E-05	1.56E-05	2.860392	0.0045
INFLATION VOLATILITY	-0.000233	5.67E-05	-4.110835	0.0000
POPULATION	-4.56E-10	2.19E-10	-2.080256	0.0383
GOLD RESERVES CURRENT USD	-9.57E-14	2.06E-14	-4.636771	0.0000
GOLD PRICE CURRENT USD	-5.15E-07	5.94E-07	-0.866954	0.3866
VIX	0.000237	3.14E-05	7.540984	0.0000
TED RATE	-5.29E-05	0.000556	-0.095133	0.9243

Effects Specification

Cross-section fixed (first differences)

Mean dependent var	0.000725	S.D. dependent var	0.021421
S.E. of regression	0.031240	Sum squared resid	0.326936
J-statistic	34.50530	Instrument rank	51
Prob(J-statistic)	0.395729		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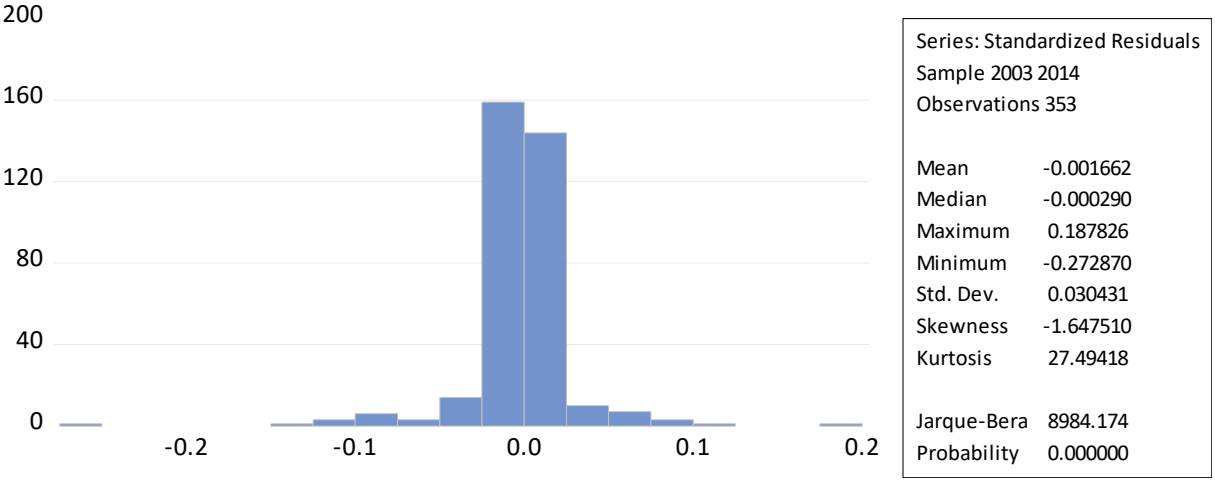
Belarus - 12
Bulgaria - 06
Costa Rica - 05
Czech Republic - 07
France - 07
Greece - 03
Guatemala - 06
Jordan - 04
Kazakhstan - 11
Kyrgyz Republic - 10
Mexico - 03
Mongolia - 07
Netherlands - 03
Philippines - 12
Romania - 08
Slovenia - 05
South Africa - 11
Suriname - 09
Tajikistan - 11
Ukraine - 04
United Kingdom - 07
Uruguay - 10


Residual
Actual
Fitted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Series: Standardized Residuals
Sample 2003 2014
Observations 353
Mean -0.001662
Median -0.000290
Maximum 0.187826
Minimum -0.272870
Std. Dev. 0.030431
Skewness -1.647510
Kurtosis 27.49418
Jarque-Bera 8984.174
Probability 0.000000

Coefficient Confidence Intervals
Sample: 2000 2014
Included observations: 353

Variable	Coefficient	90% CI Low	90% CI High	95% CI Low	95% CI High	99% CI Low	99% CI High
ANNUAL GOLD M...	-0.101207	-0.105898	-0.096516	-0.106802	-0.095612	-0.108575	-0.093839
ANNUAL GOLD M...	0.000649	0.000642	0.000656	0.000641	0.000657	0.000638	0.000660
RULE OF LAW	0.033003	0.031671	0.034335	0.031414	0.034592	0.030911	0.035095
INCOME GROUP	0.002541	0.001511	0.003572	0.001313	0.003770	0.000923	0.004160
HUMAN DEVELOP...	0.099695	0.078341	0.121050	0.074228	0.125163	0.066156	0.133235
TRADE OPENNESS	0.000300	0.000276	0.000325	0.000271	0.000329	0.000262	0.000338
CURRENT ACCO...	0.000522	0.000496	0.000548	0.000491	0.000553	0.000481	0.000562
FOREIGN DIRECT ...	0.000249	0.000224	0.000275	0.000219	0.000280	0.000209	0.000289
CAPITAL ACCOUN...	0.007375	0.005791	0.008959	0.005485	0.009265	0.004886	0.009864
US EXCHANGE L...	5.70E-05	5.56E-05	5.84E-05	5.53E-05	5.87E-05	5.47E-05	5.92E-05
GDP GROWTH	-0.000315	-0.000346	-0.000284	-0.000352	-0.000278	-0.000364	-0.000266
INFLATION	4.47E-05	1.89E-05	7.05E-05	1.40E-05	7.54E-05	4.22E-06	8.52E-05
INFLATION VOLATI...	-0.000233	-0.000327	-0.000140	-0.000345	-0.000122	-0.000380	-8.62E-05
POPULATION	-4.56E-10	-8.18E-10	-9.45E-11	-8.87E-10	-2.48E-11	-1.02E-09	1.12E-10
GOLD RESERVES...	-9.57E-14	-1.30E-13	-6.17E-14	-1.36E-13	-5.51E-14	-1.49E-13	-4.22E-14
GOLD PRICE C...	-5.15E-07	-1.49E-06	4.65E-07	-1.68E-06	6.54E-07	-2.05E-06	1.02E-06
VIX	0.000237	0.000185	0.000288	0.000175	0.000298	0.000155	0.000318
TED RATE	-5.29E-05	-0.000970	0.000864	-0.001147	0.001041	-0.001494	0.001388

Arellano-Bond Serial Correlation Test
Equation: MODELANNUALGOLDMANAGEMENTPERFORMANCE
Sample: 2000 2014
Included observations: 353

Test order	m-Statistic	rho	SE(rho)	Prob.
AR(1)	NA	-0.082214	NA	NA
AR(2)	NA	-0.004358	NA	NA

5.2.2. Proxy dependent variables

The variable “current gold management profit/loss (current USD) is a calculated variable derived from the variable “annual gold management performance”. It incorporates an additional dimension which has been not factored in the latter variable, the volume (value) of a country´s sovereign gold reserves. Being “current gold management profit/loss (current USD)” derived from the variable “annual gold management performance”, both follow similar correlation patterns with most of the independent variables under consideration. “Current gold management profit/loss (current USD)” displays a higher degree of sensitivity and its correlations are more marked. We use it as a proxy variable to test the robustness of the model, yielding the following results:

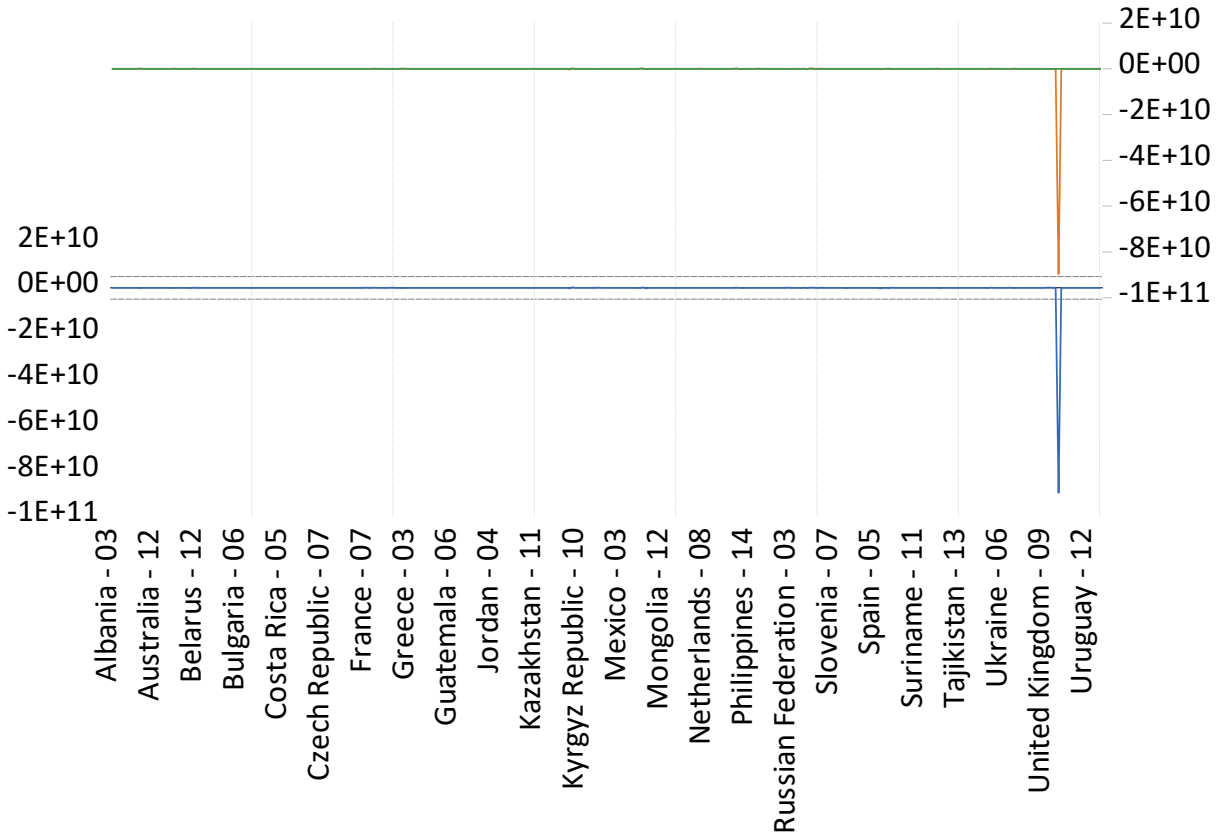
Dependent Variable: CURRENT USD GOLD MANAGEMENT PROFIT LOSS
Method: Panel Generalized Method of Moments
Transformation: First Differences
Sample (adjusted): 2003 2014
Periods included: 12
Cross-sections included: 56
Total panel (unbalanced) observations: 351
White period instrument weighting matrix
White period standard errors & covariance (d.f. corrected)
Instrument specification: @DYN(ANNUAL GOLD MANAGEMENT PERFORMANCE,-2)
Constant added to instrument list

Variable	Coefficient	Std. Error	t-Statistic	Prob.
CURRENT USD GOLD MANAGEME...	-0.243290	0.003310	-73.51215	0.0000
CURRENT USD GOLD MANAGEME...	-0.025336	0.000177	-142.7709	0.0000
RULE OF LAW	50190388	1595866.	31.45025	0.0000
INCOME GROUP	10000401	330301.3	30.27660	0.0000
HUMAN DEVELOPMENT INDEX HDI	-3.39E+08	7203014.	-47.04667	0.0000
TRADE OPENNESS	-823806.5	17244.89	-47.77104	0.0000
CURRENT ACCOUNT BALANCE	413341.3	17646.30	23.42368	0.0000
FOREIGN DIRECT INVESTMENT ...	5703.880	9727.881	0.586344	0.5580
CAPITAL ACCOUNT OPENNESS	-63236685	887165.6	-71.27946	0.0000
US EXCHANGE LOCAL CURRENCY	64412.37	3081.525	20.90276	0.0000
GDP GROWTH	3981786.	50420.17	78.97209	0.0000
INFLATION	826497.8	26754.47	30.89196	0.0000
INFLATION VOLATILITY	-120562.0	112098.6	-1.075500	0.2829
POPULATION	-0.287928	0.322224	-0.893565	0.3722
GOLD RESERVES CURRENT USD	-0.002236	0.000164	-13.62978	0.0000
GOLD PRICE CURRENT USD	43714.17	790.4585	55.30229	0.0000
VIX	-1246691.	18597.74	-67.03455	0.0000
GLOBAL LIQUIDITY MEASURE CR...	1732948.	24926.06	69.52355	0.0000

Effects Specification

Cross-section fixed (first differences)

Mean dependent var	27046.74	S.D. dependent var	37386770
S.E. of regression	4.91E+09	Sum squared resid	8.03E+21
J-statistic	38.10096	Instrument rank	51
Prob(J-statistic)	0.248460		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Czech Republic - 07
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Kazakhstan - 11
Kyrgyz Republic - 10
Mexico - 03
Mongolia - 12
Netherlands - 08
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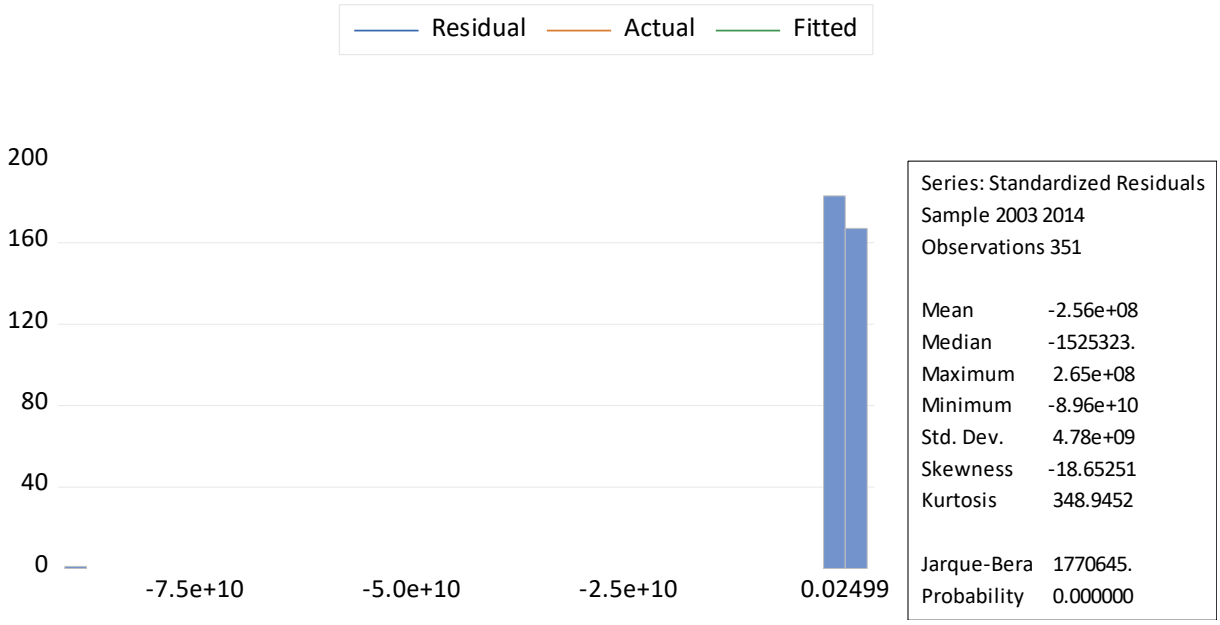
Uruguay - 12


Residual
Actual
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-2.5e+10
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Series: Standardized Residuals
Sample 2003 2014
Observations 351
Mean -2.56e+08
Median -1525323.
Maximum 2.65e+08
Minimum -8.96e+10
Std. Dev. 4.78e+09
Skewness -18.65251
Kurtosis 348.9452
Jarque-Bera 1770645.
Probability 0.000000

Coefficient Confidence Intervals
Sample: 2000 2014
Included observations: 351

Variable	Coefficient	90% CI Low	90% CI High	95% CI Low	95% CI High	99% CI Low	99% CI High
CURRENT USD ...	-0.243290	-0.248749	-0.237831	-0.249800	-0.236780	-0.251864	-0.234716
CURRENT USD ...	-0.025336	-0.025628	-0.025043	-0.025685	-0.024987	-0.025795	-0.024876
RULE OF LAW	50190388	47558099	52822677	47051139	53329638	46056020	54324756
INCOME GROUP	10000401	9455588.	10545214	9350661.	10650141	9144698.	10856104
HUMAN DEVELOP...	-3.39E+08	-3.51E+08	-3.27E+08	-3.53E+08	-3.25E+08	-3.58E+08	-3.20E+08
TRADE OPENNESS	-823806.5	-852251.0	-795362.1	-857729.2	-789883.9	-868482.4	-779130.6
CURRENT ACCO...	413341.3	384234.8	442447.9	378629.1	448053.6	367625.5	459057.1
FOREIGN DIRECT ...	5703.880	-10341.70	21749.46	-13431.96	24839.73	-19497.88	30905.64
CAPITAL ACCOUN...	-63236685	-64700013	-61773356	-64981840	-61491529	-65535041	-60938328
US EXCHANGE L...	64412.37	59329.57	69495.17	58350.66	70474.08	56429.14	72395.60
GDP GROWTH	3981786.	3898621.	4064951.	3882604.	4080968.	3851164.	4112408.
INFLATION	826497.8	782367.9	870627.8	773868.8	879126.9	757185.7	895809.9
INFLATION VOLATI...	-120562.0	-305462.1	64338.13	-341072.6	99948.61	-410972.8	169848.8
POPULATION	-0.287928	-0.819418	0.243562	-0.921779	0.345923	-1.122705	0.546849
GOLD RESERVES...	-0.002236	-0.002506	-0.001965	-0.002558	-0.001913	-0.002661	-0.001811
GOLD PRICE C...	43714.17	42410.35	45017.99	42159.25	45269.09	41666.35	45761.99
VIX	-1246691.	-1277367.	-1216015.	-1283275.	-1210107.	-1294872.	-1198511.
GLOBAL LIQUIDIT...	1732948.	1691834.	1774062.	1683916.	1781981.	1668373.	1797523.

Arellano-Bond Serial Correlation Test
Equation: MODELANNUALGOLDMANAGEMENTPERFORMANCE
Sample: 2000 2014
Included observations: 351

Test order	m-Statistic	rho	SE(rho)	Prob.
AR(1)	NA	-141541...	NA	NA
AR(2)	-0.008459	-582076...	6881129...	0.9933

5.2.3. Balanced sample

This robustness test was not performed for the dependent variable “annual gold management performance” due to the limited number of cross sections –9– remaining after deleting the observations with missing data in any of the independent variables and the cross sections with data for less than the totality of years (15). A large number of countries had to be eliminated from the balanced sample due to the fact that they did not transact gold every year in the period. We found that a balanced panel of 9 countries would not be representative of the overall sample.

5.2.4. Country sub-groups

The model has been tested for two country sub-groups: countries receiving official development aid, and countries not receiving official development aid. In addition to verifying the robustness of the model, this test will add information about the intensity of the determinants. “Official development

aid (%) of GDP" can be considered a proxy variable of "income group". The majority of development aid recipient countries belong to income groups 1, 2 and 3; and group 4 corresponds almost exclusively to countries not receiving development aid –with the exceptions, in our sample, of Chile, Malta, Oman, Saudi Arabia, Slovenia and Uruguay–.

This first model is used for countries which do not receive official development aid:

Dependent Variable: ANNUAL GOLD MANAGEMENT PERFORMANCE
Method: Panel Generalized Method of Moments
Transformation: First Differences
Sample (adjusted): 2003 2014
Periods included: 12
Cross-sections included: 25
Total panel (unbalanced) observations: 144
White period instrument weighting matrix
White period standard errors & covariance (d.f. corrected)
Instrument specification: @DYN(ANNUAL GOLD MANAGEMENT PER FORMANCE,-2)
Constant added to instrument list

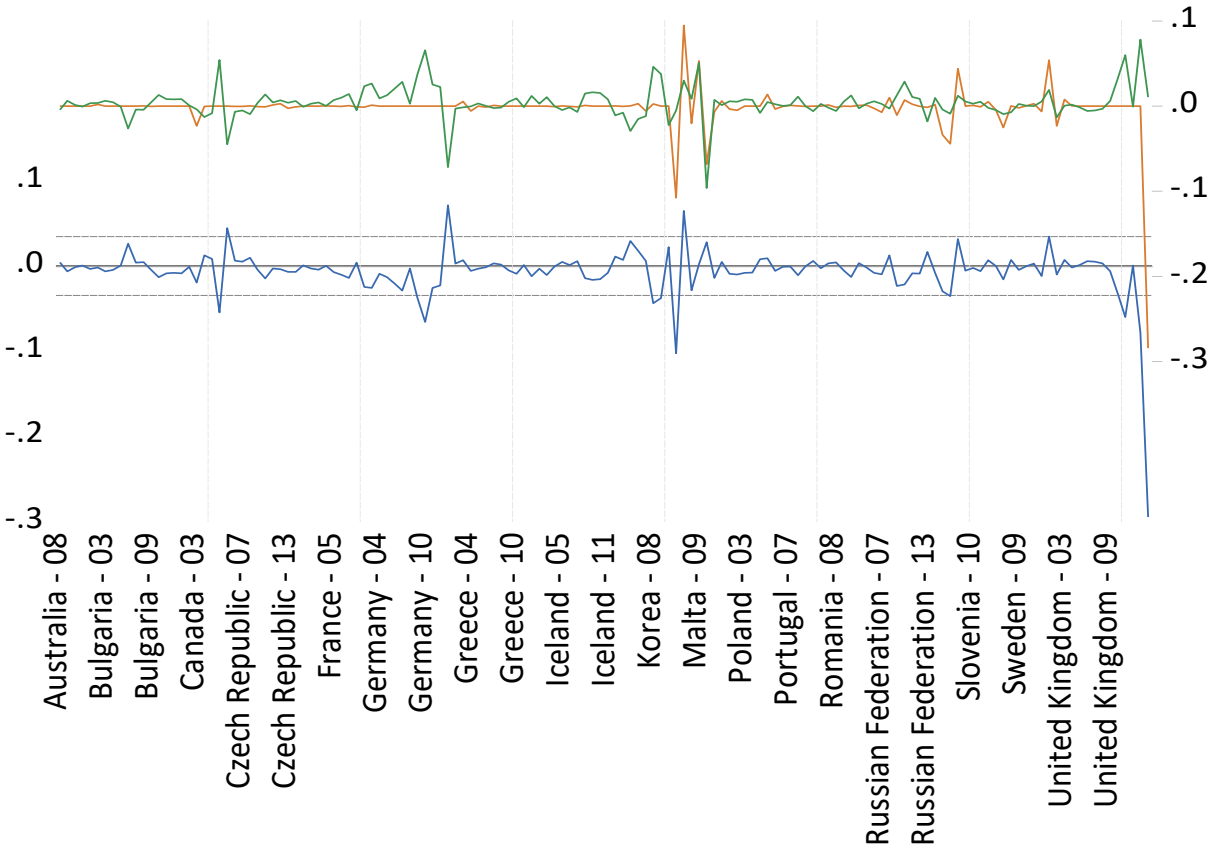
Variable	Coefficient	Std. Error	t-Statistic	Prob.
ANNUAL GOLD MANAGEMENT PER...	-0.181733	0.525489	-0.345836	0.7300
ANNUAL GOLD MANAGEMENT PER...	-0.305330	0.473812	-0.644411	0.5205
CAPITAL ACCOUNT OPENNESS	-0.030654	0.031939	-0.959770	0.3390
CURRENT ACCOUNT BALANCE	3.78E-05	0.000438	0.086315	0.9314
FOREIGN DIRECT INVESTMENT ...	-0.000129	0.000224	-0.574364	0.5667
GDP GROWTH	2.49E-05	0.000597	0.041676	0.9668
GLOBAL LIQUIDITY MEASURE CR...	-0.000601	0.000543	-1.106519	0.2706
GOLD PRICE CURRENT USD	-1.45E-06	3.20E-05	-0.045215	0.9640
GOLD RESERVES CURRENT USD	1.46E-12	9.68E-13	1.509024	0.1338
HUMAN DEVELOPMENT INDEX HDI	0.230593	0.446839	0.516054	0.6067
INCOME GROUP	-0.008685	0.005178	-1.677088	0.0960
INFLATION	-0.001607	0.000810	-1.984353	0.0494
INFLATION VOLATILITY	0.002190	0.002868	0.763666	0.4465
POPULATION	-4.15E-09	4.12E-09	-1.008919	0.3149
RULE OF LAW	-0.013638	0.019357	-0.704538	0.4824
TRADE OPENNESS	0.000465	0.000568	0.818732	0.4145
US EXCHANGE LOCAL CURRENCY	0.000240	0.000445	0.538372	0.5913
VIX	-0.000243	0.000311	-0.779446	0.4372

Effects Specification

Cross-section fixed (first differences)

Mean dependent var	-0.000232	S.D. dependent var	0.014689
S.E. of regression	0.034639	Sum squared resid	0.151180
J-statistic	6.063272	Instrument rank	25
Prob(J-statistic)	0.532381		

In this model, significance of results could not be improved by adding the independent variables as instruments in the modelization.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Greece - 04
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Iceland - 05
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Korea - 08
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United Kingdom - 03
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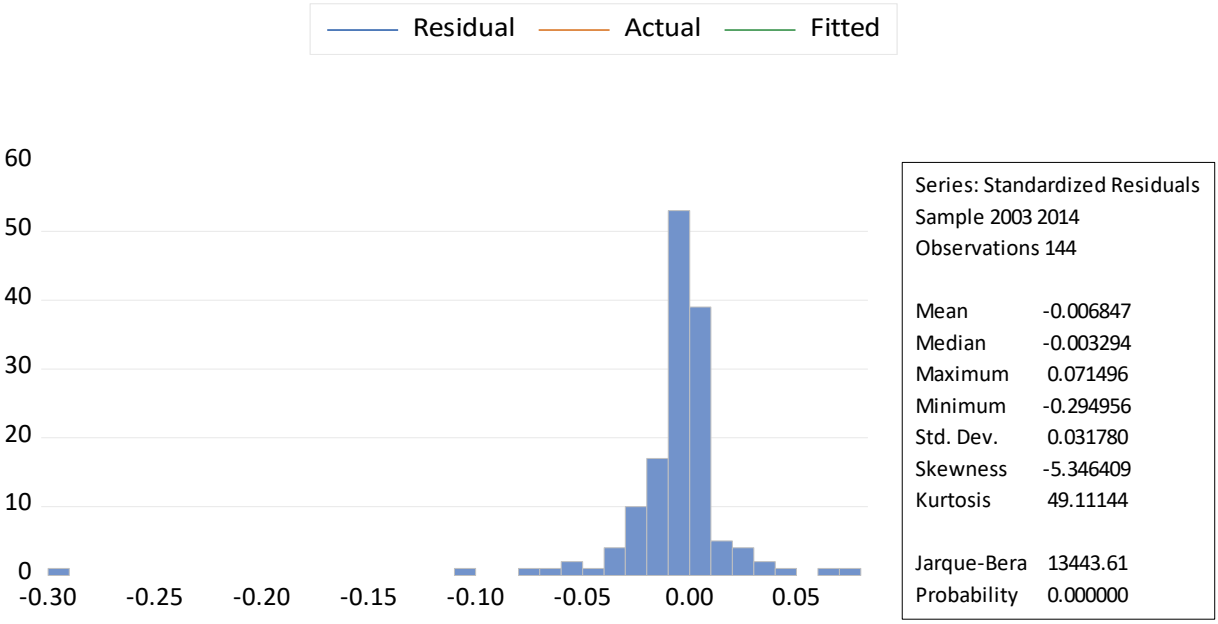
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Series: Standardized Residuals
Sample 2003 2014
Observations 144
Mean -0.006847
Median -0.003294
Maximum 0.071496
Minimum -0.294956
Std. Dev. 0.031780
Skewness -5.346409
Kurtosis 49.11144
Jarque-Bera 13443.61
Probability 0.000000

Coefficient Confidence Intervals
Sample: 2000 2014
Included observations: 144

Variable	Coefficient	90% CI Low	90% CI High	95% CI Low	95% CI High	99% CI Low	99% CI High
ANNUAL GOLD M...	-0.181733	-1.052487	0.689022	-1.221660	0.858194	-1.556103	1.192637
ANNUAL GOLD M...	-0.305330	-1.090454	0.479794	-1.242990	0.632330	-1.544543	0.933884
CAPITAL ACCOUN...	-0.030654	-0.083578	0.022270	-0.093860	0.032552	-0.114187	0.052879
CURRENT ACCO...	3.78E-05	-0.000688	0.000763	-0.000828	0.000904	-0.001107	0.001183
FOREIGN DIRECT ...	-0.000129	-0.000500	0.000243	-0.000572	0.000315	-0.000715	0.000458
GDP GROWTH	2.49E-05	-0.000965	0.001014	-0.001157	0.001207	-0.001537	0.001587
GLOBAL LIQUIDIT...	-0.000601	-0.001501	0.000299	-0.001676	0.000474	-0.002022	0.000820
GOLD PRICE C...	-1.45E-06	-5.45E-05	5.16E-05	-6.48E-05	6.19E-05	-8.52E-05	8.23E-05
GOLD RESERVES...	1.46E-12	-1.43E-13	3.07E-12	-4.55E-13	3.38E-12	-1.07E-12	3.99E-12
HUMAN DEVELOP...	0.230593	-0.509836	0.971021	-0.653688	1.114873	-0.938075	1.399260
INCOME GROUP	-0.008685	-0.017265	-0.000104	-0.018933	0.001563	-0.022228	0.004859
INFLATION	-0.001607	-0.002949	-0.000265	-0.003209	-4.36E-06	-0.003725	0.000511
INFLATION VOLATI...	0.002190	-0.002562	0.006942	-0.003485	0.007866	-0.005311	0.009691
POPULATION	-4.15E-09	-1.10E-08	2.67E-09	-1.23E-08	3.99E-09	-1.49E-08	6.62E-09
RULE OF LAW	-0.013638	-0.045714	0.018438	-0.051946	0.024670	-0.064266	0.036990
TRADE OPENNESS	0.000465	-0.000476	0.001406	-0.000659	0.001588	-0.001020	0.001950
US EXCHANGE L...	0.000240	-0.000498	0.000978	-0.000642	0.001121	-0.000925	0.001405
VIX	-0.000243	-0.000758	0.000273	-0.000859	0.000373	-0.001057	0.000571

Arellano-Bond Serial Correlation Test
Sample: 2000 2014
Included observations: 144

Test order	m-Statistic	rho	SE(rho)	Prob.
AR(1)	NA	-0.004488	NA	NA
AR(2)	0.003852	0.014035	3.643039	0.9969

This second model includes only countries in the sample which receive official development aid. The independent variable “human development index” has been omitted from the equation, as it created multicollinearity problems in the model.

Dependent Variable: ANNUAL GOLD MANAGEMENT PERFORMANCE
Method: Panel Generalized Method of Moments
Transformation: First Differences
Sample (adjusted): 2003 2014
Periods included: 12
Cross-sections included: 31
Total panel (unbalanced) observations: 189
White period instrument weighting matrix
White period standard errors & covariance (d.f. corrected)
Instrument specification: @DYN(ANNUAL GOLD MANAGEMENT PER FORMANCE,-2)
Constant added to instrument list

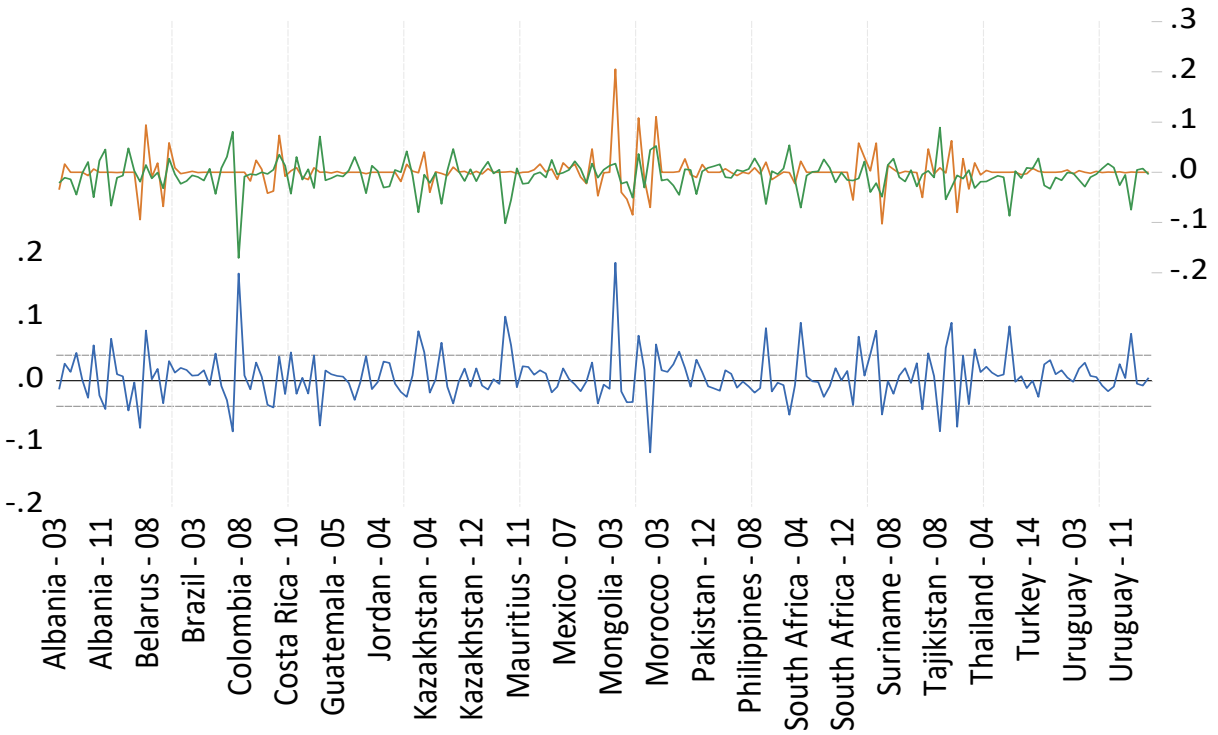
Variable	Coefficient	Std. Error	t-Statistic	Prob.
ANNUAL GOLD MANAGEMENT PER...	-0.119900	0.058393	-2.053314	0.0416
ANNUAL GOLD MANAGEMENT PER...	-0.038870	0.020889	-1.860754	0.0645
CAPITAL ACCOUNT OPENNESS	0.155380	0.080755	1.924099	0.0560
CURRENT ACCOUNT BALANCE	0.001037	0.001146	0.904992	0.3667
FOREIGN DIRECT INVESTMENT ...	-5.84E-05	0.001521	-0.038417	0.9694
GDP GROWTH	-9.65E-05	0.001456	-0.066322	0.9472
GLOBAL LIQUIDITY MEASURE CR...	-0.000287	0.000615	-0.466451	0.6415
GOLD PRICE CURRENT USD	-2.81E-05	6.73E-05	-0.417983	0.6765
GOLD RESERVES CURRENT USD	2.87E-12	2.51E-12	1.141426	0.2553
INCOME GROUP	-0.053920	0.003985	-13.53102	0.0000
INFLATION	0.000506	0.000527	0.960564	0.3381
INFLATION VOLATILITY	0.000263	0.001950	0.134615	0.8931
POPULATION	2.83E-09	3.49E-09	0.811053	0.4185
RULE OF LAW	0.034364	0.063990	0.537014	0.5920
TRADE OPENNESS	-0.000173	0.000586	-0.295352	0.7681
US EXCHANGE LOCAL CURRENCY	0.000247	0.000448	0.552279	0.5815
VIX	0.001936	0.000884	2.190467	0.0298

Effects Specification

Cross-section fixed (first differences)

Mean dependent var	0.001116	S.D. dependent var	0.022990
S.E. of regression	0.040666	Sum squared resid	0.284446
J-statistic	13.88051	Instrument rank	31
Prob(J-statistic)	0.458651		

In this model, significance of results could not be improved by adding the independent variables as instruments in the modelization.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Tajikistan - 08
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Uruguay - 11


Residual
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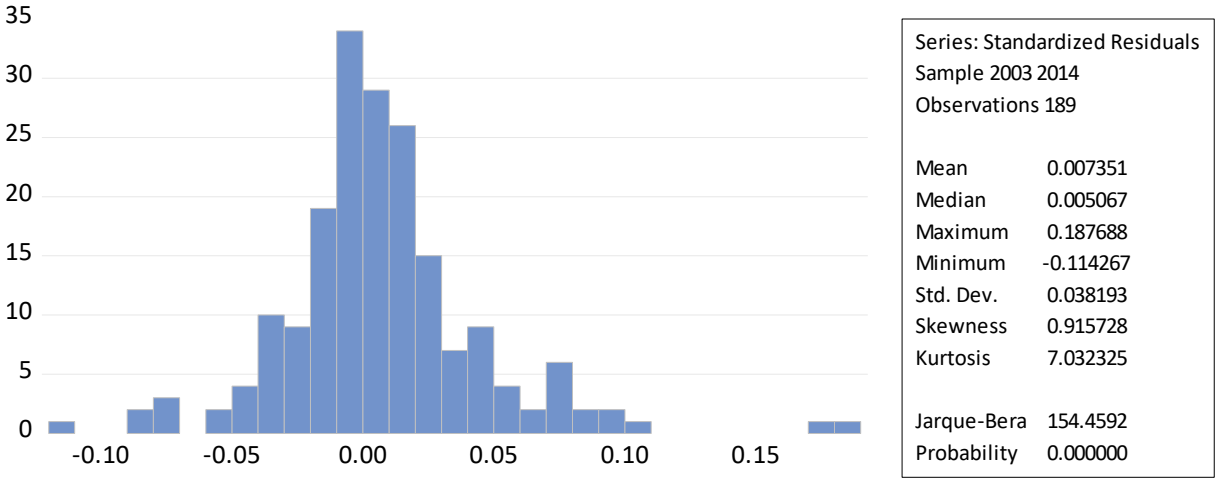
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Series: Standardized Residuals
Sample 2003 2014
Observations 189
Mean 0.007351
Median 0.005067
Maximum 0.187688
Minimum -0.114267
Std. Dev. 0.038193
Skewness 0.915728
Kurtosis 7.032325
Jarque-Bera 154.4592
Probability 0.000000

Coefficient Confidence Intervals
Sample: 2000 2014
Included observations: 189

Variable	Coefficient	90% CI Low	90% CI High	95% CI Low	95% CI High	99% CI Low	99% CI High
ANNUAL GOLD M...	-0.119900	-0.216468	-0.023331	-0.235159	-0.004640	-0.271997	0.032198
ANNUAL GOLD M...	-0.038870	-0.073416	-0.004324	-0.080103	0.002363	-0.093281	0.015541
CAPITAL ACCOUN...	0.155380	0.021831	0.288929	-0.004018	0.314778	-0.054963	0.365723
CURRENT ACCO...	0.001037	-0.000858	0.002932	-0.001225	0.003299	-0.001948	0.004022
FOREIGN DIRECT ...	-5.84E-05	-0.002573	0.002456	-0.003060	0.002943	-0.004019	0.003902
GDP GROWTH	-9.65E-05	-0.002504	0.002311	-0.002969	0.002776	-0.003888	0.003695
GLOBAL LIQUIDIT...	-0.000287	-0.001303	0.000730	-0.001500	0.000926	-0.001887	0.001314
GOLD PRICE C...	-2.81E-05	-0.000139	8.32E-05	-0.000161	0.000105	-0.000203	0.000147
GOLD RESERVES...	2.87E-12	-1.29E-12	7.02E-12	-2.09E-12	7.82E-12	-3.67E-12	9.40E-12
INCOME GROUP	-0.053920	-0.060510	-0.047330	-0.061786	-0.046054	-0.064300	-0.043540
INFLATION	0.000506	-0.000365	0.001378	-0.000534	0.001547	-0.000867	0.001880
INFLATION VOLATI...	0.000263	-0.002963	0.003488	-0.003587	0.004112	-0.004817	0.005342
POPULATION	2.83E-09	-2.94E-09	8.60E-09	-4.06E-09	9.72E-09	-6.26E-09	1.19E-08
RULE OF LAW	0.034364	-0.071461	0.140188	-0.091943	0.160671	-0.132312	0.201040
TRADE OPENNESS	-0.000173	-0.001141	0.000796	-0.001329	0.000983	-0.001698	0.001352
US EXCHANGE L...	0.000247	-0.000493	0.000988	-0.000637	0.001131	-0.000919	0.001414
VIX	0.001936	0.000474	0.003399	0.000191	0.003681	-0.000366	0.004239

Arellano-Bond Serial Correlation Test
Sample: 2000 2014
Included observations: 189

Test order	m-Statistic	rho	SE(rho)	Prob.
AR(1)	-0.000055	-0.038846	712.067893	1.0000
AR(2)	NA	-0.015504	NA	NA

5.2.5. Sub-periods (pre-crisis / crisis & post-crisis years)

Based on the markedly different patterns of gold demand by central banks before and after the global financial crisis (Aizenman & Lee, 2008; Cheung & Ito, 2009; Gopalakrishnan & Mohapatra, 2018b) and on the methodology for robustness testing used by Gopalakrishnan & Mohapatra (2018b), we have opted by dividing our sample in two periods, 2000-2007 and 2008-2014, and test if model results for each sub-period are consistent between them and are also coherent with the whole period 2000-2014.

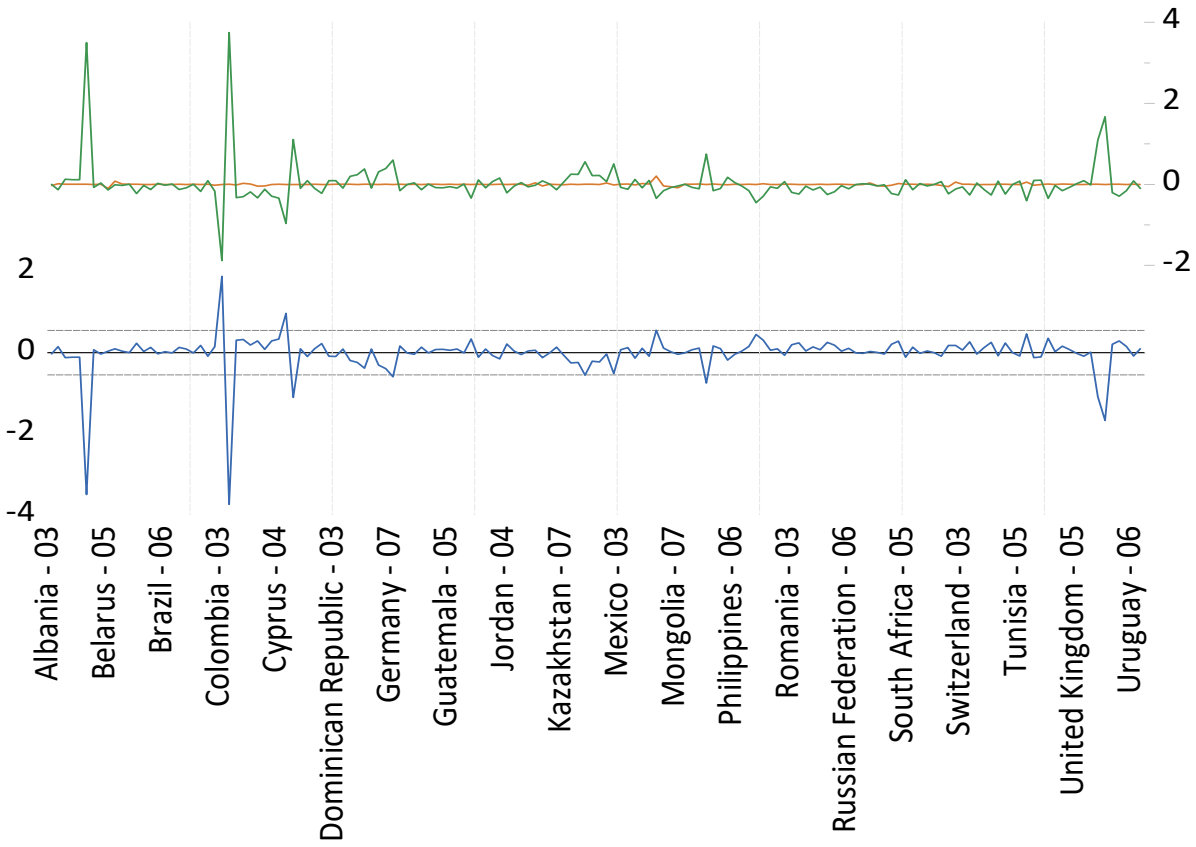
Dependent Variable: ANNUAL GOLD MANAGEMENT PERFORMANCE
Method: Panel Generalized Method of Moments
Transformation: First Differences
Sample (adjusted): 2003 2007
Periods included: 5
Cross-sections included: 45
Total panel (unbalanced) observations: 154
White period instrument weighting matrix
White period standard errors & covariance (d.f. corrected)
Instrument specification: @DYN(ANNUAL GOLD MANAGEMENT PER
FORMANCE,-2)
Constant added to instrument list

Variable	Coefficient	Std. Error	t-Statistic	Prob.
ANNUAL GOLD MANAGEMENT PER...	-0.704613	1.050008	-0.671055	0.5033
ANNUAL GOLD MANAGEMENT PER...	-0.013227	0.008043	-1.644516	0.1024
CAPITAL ACCOUNT OPENNESS	-0.341737	1.460443	-0.233995	0.8153
CURRENT ACCOUNT BALANCE	0.013144	0.019467	0.675157	0.5007
FOREIGN DIRECT INVESTMENT ...	0.008619	0.020426	0.421963	0.6737
GDP GROWTH	-0.027478	0.030710	-0.894752	0.3725
GLOBAL LIQUIDITY MEASURE CR...	-0.018845	0.018860	-0.999184	0.3195
GOLD PRICE CURRENT USD	-2.05E-05	0.001012	-0.020266	0.9839
GOLD RESERVES CURRENT USD	2.83E-11	3.94E-11	0.718664	0.4736
HUMAN DEVELOPMENT INDEX HDI	7.082850	15.11283	0.468665	0.6401
INCOME GROUP	-0.044458	0.195891	-0.226951	0.8208
INFLATION	0.008677	0.019582	0.443096	0.6584
INFLATION VOLATILITY	-0.043677	0.052023	-0.839579	0.4026
POPULATION	6.02E-08	8.21E-08	0.733051	0.4648
RULE OF LAW	0.423501	0.643225	0.658403	0.5114
TRADE OPENNESS	0.009973	0.010733	0.929148	0.3545
US EXCHANGE LOCAL CURRENCY	-0.004695	0.009068	-0.517756	0.6055
VIX	0.016779	0.014098	1.190195	0.2360

Effects Specification

Cross-section fixed (first differences)

Mean dependent var	-0.000252	S.D. dependent var	0.023305
S.E. of regression	0.552331	Sum squared resid	41.48941
J-statistic	1.583575	Instrument rank	20
Prob(J-statistic)	0.453034		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Germany - 07
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Jordan - 04
Kazakhstan - 07
Mexico - 03
Mongolia - 07
Philippines - 06
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Residual
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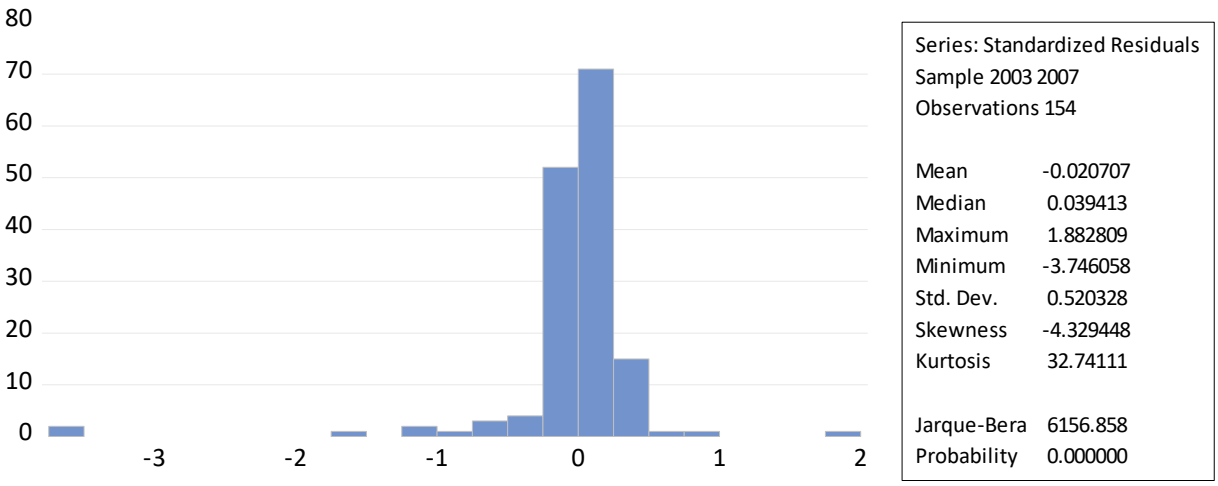
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Series: Standardized Residuals
Sample 2003 2007
Observations 154
Mean -0.020707
Median 0.039413
Maximum 1.882809
Minimum -3.746058
Std. Dev. 0.520328
Skewness -4.329448
Kurtosis 32.74111
Jarque-Bera 6156.858
Probability 0.000000

Coefficient Confidence Intervals
Sample: 2000 2007
Included observations: 154

Variable	Coefficient	90% CI Low	90% CI High	95% CI Low	95% CI High	99% CI Low	99% CI High
ANNUAL GOLD M...	-0.704613	-2.443568	1.034341	-2.781068	1.371841	-3.447720	2.038493
ANNUAL GOLD M...	-0.013227	-0.026548	9.35E-05	-0.029133	0.002679	-0.034240	0.007785
CAPITAL ACCOUN...	-0.341737	-2.760429	2.076954	-3.229853	2.546379	-4.157092	3.473617
CURRENT ACCO...	0.013144	-0.019097	0.045384	-0.025355	0.051642	-0.037714	0.064002
FOREIGN DIRECT ...	0.008619	-0.025209	0.042447	-0.031775	0.049013	-0.044743	0.061981
GDP GROWTH	-0.027478	-0.078339	0.023382	-0.088210	0.033254	-0.107708	0.052752
GLOBAL LIQUIDIT...	-0.018845	-0.050079	0.012390	-0.056141	0.018452	-0.068116	0.030426
GOLD PRICE C...	-2.05E-05	-0.001696	0.001655	-0.002022	0.001981	-0.002664	0.002623
GOLD RESERVES...	2.83E-11	-3.70E-11	9.36E-11	-4.96E-11	1.06E-10	-7.47E-11	1.31E-10
HUMAN DEVELOP...	7.082850	-17.94603	32.11173	-22.80369	36.96939	-32.39885	46.56455
INCOME GROUP	-0.044458	-0.368880	0.279965	-0.431845	0.342929	-0.556216	0.467301
INFLATION	0.008677	-0.023754	0.041107	-0.030048	0.047402	-0.042481	0.059834
INFLATION VOLATI...	-0.043677	-0.129835	0.042480	-0.146556	0.059201	-0.179586	0.092231
POPULATION	6.02E-08	-7.58E-08	1.96E-07	-1.02E-07	2.23E-07	-1.54E-07	2.75E-07
RULE OF LAW	0.423501	-0.641767	1.488770	-0.848516	1.695519	-1.256901	2.103904
TRADE OPENNESS	0.009973	-0.007803	0.027748	-0.011253	0.031198	-0.018067	0.038013
US EXCHANGE L...	-0.004695	-0.019713	0.010323	-0.022627	0.013237	-0.028385	0.018995
VIX	0.016779	-0.006569	0.040128	-0.011100	0.044659	-0.020051	0.053610

Arellano-Bond Serial Correlation Test
Sample: 2000 2007
Included observations: 154

Test order	m-Statistic	rho	SE(rho)	Prob.
AR(1)	0.420251	2.023715	4.815491	0.6743
AR(2)	0.758229	0.902656	1.190480	0.4483

As a consequence of the low number of observations in the resulting sample used for this robustness test, most results in this model are not significant. In order to improve the significance of the model results, we have modified the instrument specification and included, in addition to “annual gold performance” lagged by 1 and 2 years, first difference transformations of all independent variables in the original model. This methodology yields better results in terms of significance:

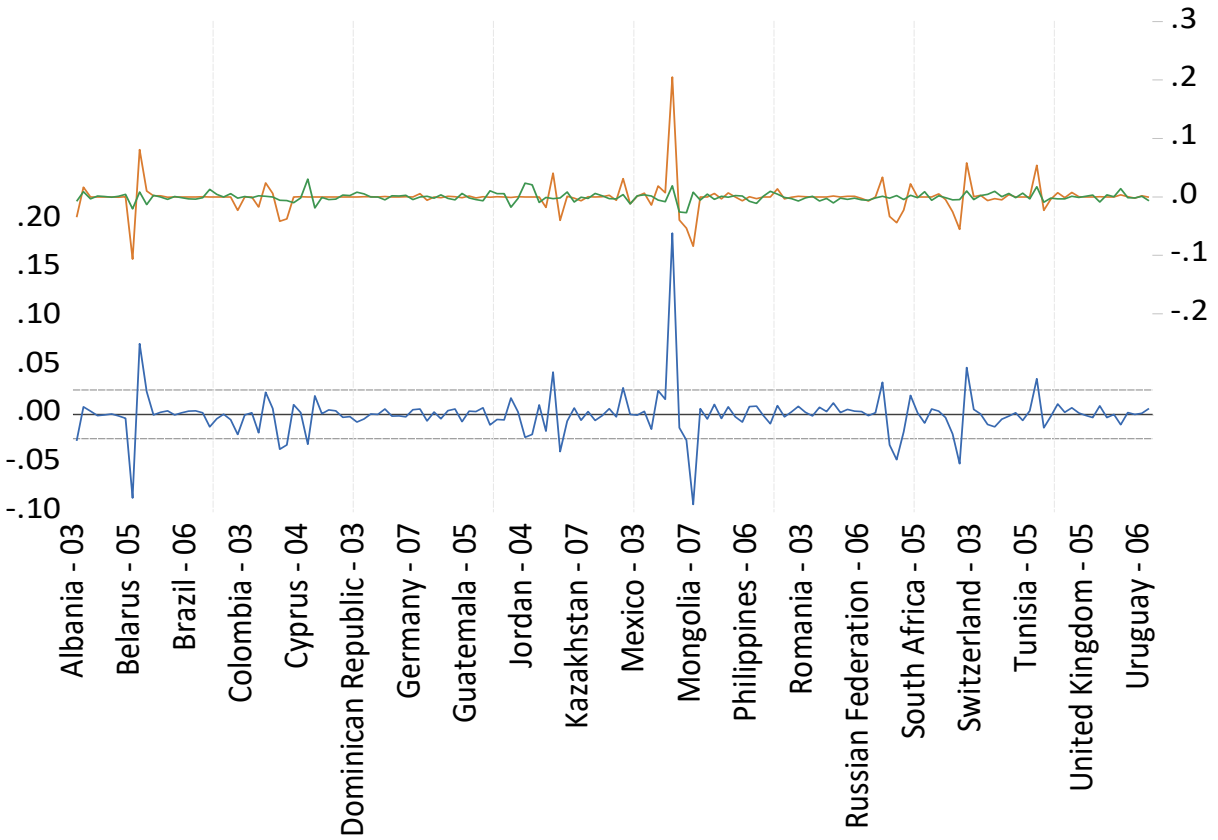
Dependent Variable: ANNUAL_GOLD_MANAGEMENT_PERFORMANCE
Method: Panel Generalized Method of Moments
Transformation: First Differences
Sample (adjusted): 2003 2007
Periods included: 5
Cross-sections included: 45
Total panel (unbalanced) observations: 154
White period instrument weighting matrix
White period standard errors & covariance (d.f. corrected)
Instrument specification: @DYN(ANNUAL_GOLD_MANAGEMENT_PER
FORMANCE,-2) CAPITAL_ACCOUNT_OPENNESS
CURRENT_ACCOUNT_BALANCE FOREIGN_DIRECT_INVESTM
ENT___GDP_GDP_GROWTH___GLOBAL_LIQUIDITY_MEAS
URE__CREDIT__GDP_GOLD_PRICE__CURRENT_USD
GOLD_RESERVES__CURRENT_USD_HUMAN_DEVELOPMENT
_INDEX__HDI_INCOME_GROUP INFLATION INFLATION_VOLATI
LITY POPULATION RULE_OF_LAW TRADE_OPENNESS
US_EXCHANGE_LOCAL_CURRENCY VIX
Constant added to instrument list

Variable	Coefficient	Std. Error	t-Statistic	Prob.
ANNUAL_GOLD_MANAGEMENT_PER...	-0.090242	0.016646	-5.421174	0.0000
ANNUAL_GOLD_MANAGEMENT_PER...	0.000596	8.03E-05	7.422403	0.0000
CAPITAL_ACCOUNT_OPENNESS	-0.011992	0.005068	-2.366244	0.0194
CURRENT_ACCOUNT_BALANCE	-0.000873	0.000240	-3.639287	0.0004
FOREIGN_DIRECT_INVESTMENT___...	-3.73E-06	3.74E-05	-0.099847	0.9206
GDP_GROWTH___	0.000515	0.000180	2.860480	0.0049
GLOBAL_LIQUIDITY_MEASURE__CR...	-0.000511	0.000367	-1.392430	0.1661
GOLD_PRICE__CURRENT_USD	-6.23E-06	1.24E-05	-0.504166	0.6150
GOLD_RESERVES__CURRENT_USD_	1.05E-13	5.31E-14	1.976250	0.0501
HUMAN_DEVELOPMENT_INDEX__HDI_	-0.135023	0.078485	-1.720371	0.0876
INCOME_GROUP	-0.000730	0.003062	-0.238567	0.8118
INFLATION	0.000417	0.000265	1.573803	0.1179
INFLATION_VOLATILITY	0.000971	0.000555	1.748480	0.0826
POPULATION	9.18E-10	5.46E-10	1.682337	0.0948
RULE_OF_LAW	0.016372	0.006758	2.422581	0.0167
TRADE_OPENNESS	0.000464	7.46E-05	6.221733	0.0000
US_EXCHANGE_LOCAL_CURRENCY	-9.02E-06	4.10E-06	-2.202494	0.0293
VIX	-0.000527	0.000128	-4.107412	0.0001

Effects Specification

Cross-section fixed (first differences)

Mean dependent var	-0.000252	S.D. dependent var	0.023305
S.E. of regression	0.024940	Sum squared resid	0.084594
J-statistic	20.56715	Instrument rank	36
Prob(J-statistic)	0.301810		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Mexico - 03
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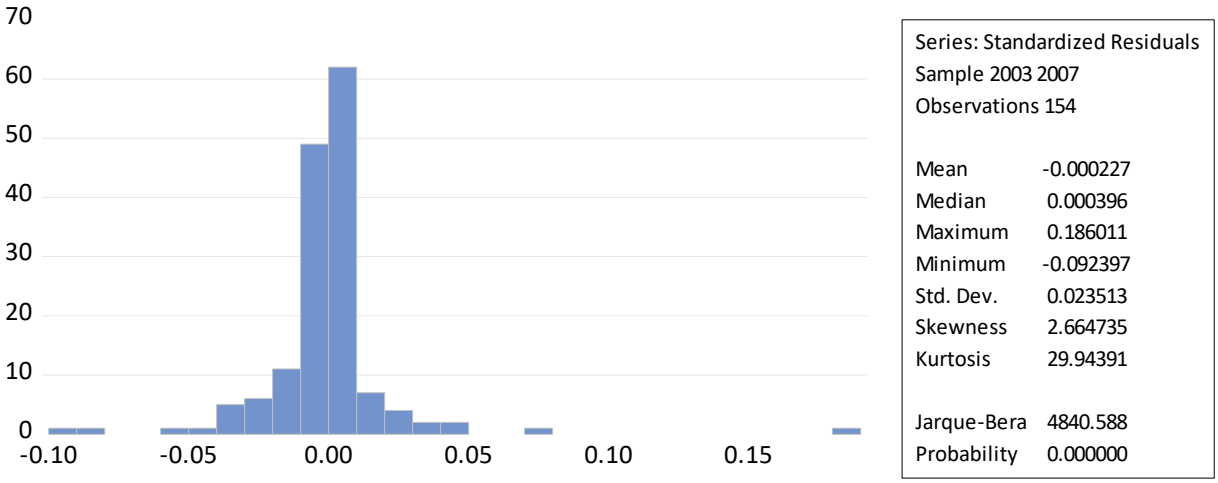
Tunisia - 05
United Kingdom - 05
Uruguay - 06


Residual
Actual
Fitted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Series: Standardized Residuals
Sample 2003 2007
Observations 154
Mean -0.000227
Median 0.000396
Maximum 0.186011
Minimum -0.092397
Std. Dev. 0.023513
Skewness 2.664735
Kurtosis 29.94391
Jarque-Bera 4840.588
Probability 0.000000

Coefficient Confidence Intervals
Sample: 2000 2007
Included observations: 154

Variable	Coefficient	90% CI Low	90% CI High	95% CI Low	95% CI High	99% CI Low	99% CI High
ANNUAL GOLD M...	-0.090242	-0.117810	-0.062674	-0.123161	-0.057323	-0.133729	-0.046754
ANNUAL GOLD M...	0.000596	0.000463	0.000729	0.000437	0.000754	0.000386	0.000805
CAPITAL ACCOUN...	-0.011992	-0.020386	-0.003599	-0.022015	-0.001970	-0.025233	0.001248
CURRENT ACCO...	-0.000873	-0.001270	-0.000476	-0.001347	-0.000398	-0.001499	-0.000246
FOREIGN DIRECT ...	-3.73E-06	-6.56E-05	5.82E-05	-7.77E-05	7.02E-05	-0.000101	9.39E-05
GDP GROWTH	0.000515	0.000217	0.000813	0.000159	0.000871	4.46E-05	0.000985
GLOBAL LIQUIDIT...	-0.000511	-0.001118	9.67E-05	-0.001236	0.000215	-0.001469	0.000447
GOLD PRICE C...	-6.23E-06	-2.67E-05	1.42E-05	-3.07E-05	1.82E-05	-3.85E-05	2.61E-05
GOLD RESERVES...	1.05E-13	1.70E-14	1.93E-13	-6.96E-17	2.10E-13	-3.38E-14	2.44E-13
HUMAN DEVELOP...	-0.135023	-0.265004	-0.005042	-0.290231	0.020185	-0.340061	0.070016
INCOME GROUP	-0.000730	-0.005801	0.004340	-0.006785	0.005324	-0.008729	0.007268
INFLATION	0.000417	-2.18E-05	0.000856	-0.000107	0.000941	-0.000275	0.001110
INFLATION VOLATI...	0.000971	5.13E-05	0.001890	-0.000127	0.002069	-0.000480	0.002421
POPULATION	9.18E-10	1.43E-11	1.82E-09	-1.61E-10	2.00E-09	-5.08E-10	2.34E-09
RULE OF LAW	0.016372	0.005180	0.027564	0.003007	0.029736	-0.001283	0.034027
TRADE OPENNESS	0.000464	0.000341	0.000588	0.000317	0.000612	0.000269	0.000659
US EXCHANGE L...	-9.02E-06	-1.58E-05	-2.24E-06	-1.71E-05	-9.22E-07	-1.97E-05	1.68E-06
VIX	-0.000527	-0.000739	-0.000314	-0.000780	-0.000273	-0.000861	-0.000192

Arellano-Bond Serial Correlation Test
Sample: 2000 2007
Included observations: 154

Test order	m-Statistic	rho	SE(rho)	Prob.
AR(1)	-3.275336	-0.008758	0.002674	0.0011
AR(2)	-1.614394	-0.009516	0.005895	0.1064

As for the period 2000-2007, the reduced number of observations in the 2008-2014 panel (94) has made necessary the use of additional instruments in the GMM modelization. As in the model above, in addition to 1- and 2-year lags of the dependent variable “annual gold management performance”, all independent variables in the model have been used as instruments. The results are presented here:

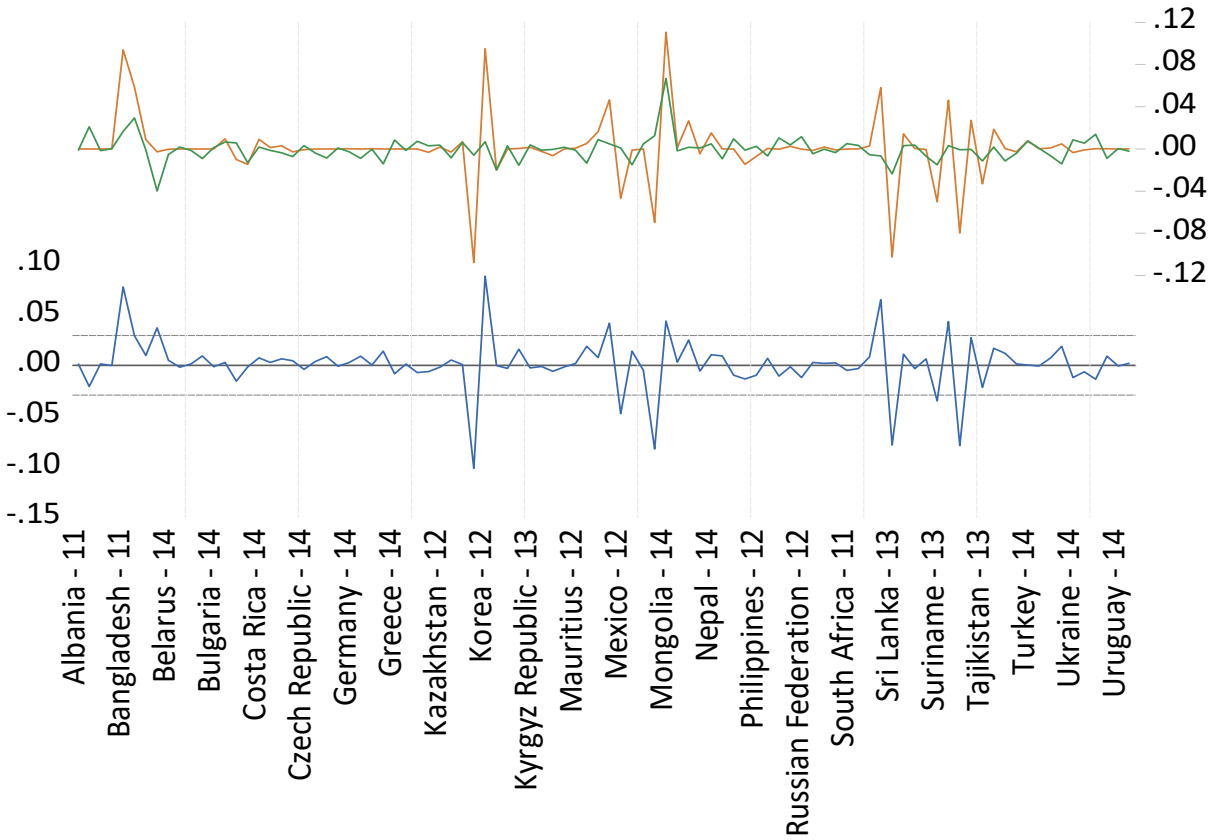
Dependent Variable: ANNUAL GOLD MANAGEMENT PERFORMANCE
Method: Panel Generalized Method of Moments
Transformation: First Differences
Sample (adjusted): 2011 2014
Periods included: 4
Cross-sections included: 33
Total panel (unbalanced) observations: 94
White period instrument weighting matrix
White period standard errors & covariance (d.f. corrected)
Instrument specification: @DYN(ANNUAL GOLD MANAGEMENT PER FORMANCE,-2) CAPITAL ACCOUNT OPENNESS CURRENT ACCOUNT BALANCE FOREIGN DIRECT INVESTM ENT GDP GDP GROWTH GLOBAL LIQUIDITY MEAS URE CREDIT GDP GOLD PRICE CURRENT USD GOLD RESERVES CURRENT USD HUMAN DEVELOPMENT INDEX HDI INCOME GROUP INFLATION INFLATION VOLATI LITY POPULATION RULE OF LAW TRADE OPENNESS US EXCHANGE LOCAL CURRENCY VIX
Constant added to instrument list

Variable	Coefficient	Std. Error	t-Statistic	Prob.
ANNUAL GOLD MANAGEMENT PER...	-0.051636	0.011464	-4.504120	0.0000
ANNUAL GOLD MANAGEMENT PER...	-0.032025	0.012163	-2.633003	0.0102
CAPITAL ACCOUNT OPENNESS	0.026878	0.009671	2.779190	0.0069
CURRENT ACCOUNT BALANCE	0.000133	0.000230	0.579406	0.5640
FOREIGN DIRECT INVESTMENT ...	5.29E-05	0.000386	0.137233	0.8912
GDP GROWTH	0.000183	0.000439	0.417362	0.6776
GLOBAL LIQUIDITY MEASURE CR...	0.004341	0.001353	3.207657	0.0020
GOLD PRICE CURRENT USD	3.44E-05	8.30E-06	4.143852	0.0001
GOLD RESERVES CURRENT USD	-3.41E-13	1.11E-13	-3.077857	0.0029
HUMAN DEVELOPMENT INDEX HDI	1.078030	0.373069	2.889624	0.0050
INCOME GROUP	0.008783	0.004095	2.144794	0.0352
INFLATION	0.000414	0.000139	2.972300	0.0040
INFLATION VOLATILITY	-4.69E-05	0.000146	-0.322155	0.7482
POPULATION	8.13E-10	9.96E-10	0.816842	0.4166
RULE OF LAW	-0.013076	0.012659	-1.032988	0.3049
TRADE OPENNESS	0.000121	9.46E-05	1.279915	0.2045
US EXCHANGE LOCAL CURRENCY	0.000166	2.91E-05	5.721929	0.0000
VIX	-0.001448	0.000803	-1.803412	0.0753

Effects Specification

Cross-section fixed (first differences)

Mean dependent var	0.000496	S.D. dependent var	0.026803
S.E. of regression	0.029377	Sum squared resid	0.065590
J-statistic	14.60478	Instrument rank	30
Prob(J-statistic)	0.263764		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Kyrgyz Republic - 13
Mauritius - 12
Mexico - 12
Mongolia - 14
Nepal - 14
Philippines - 12
Russian Federation - 12
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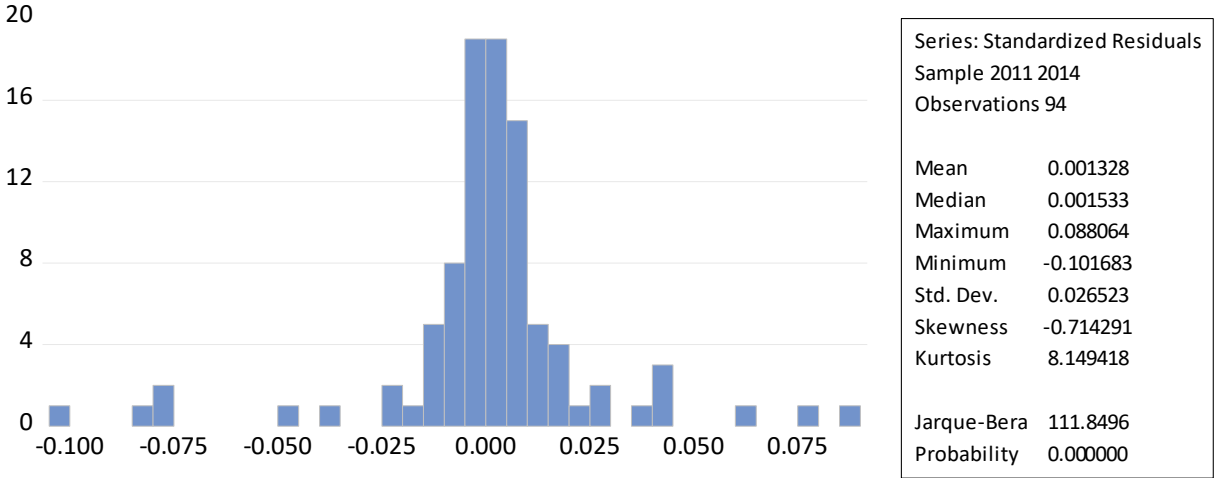
Suriname - 13
Tajikistan - 13
Turkey - 14
Ukraine - 14
Uruguay - 14


Residual
Actual
Fitted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Series: Standardized Residuals
Sample 2011 2014
Observations 94
Mean 0.001328
Median 0.001533
Maximum 0.088064
Minimum -0.101683
Std. Dev. 0.026523
Skewness -0.714291
Kurtosis 8.149418
Jarque-Bera 111.8496
Probability 0.000000

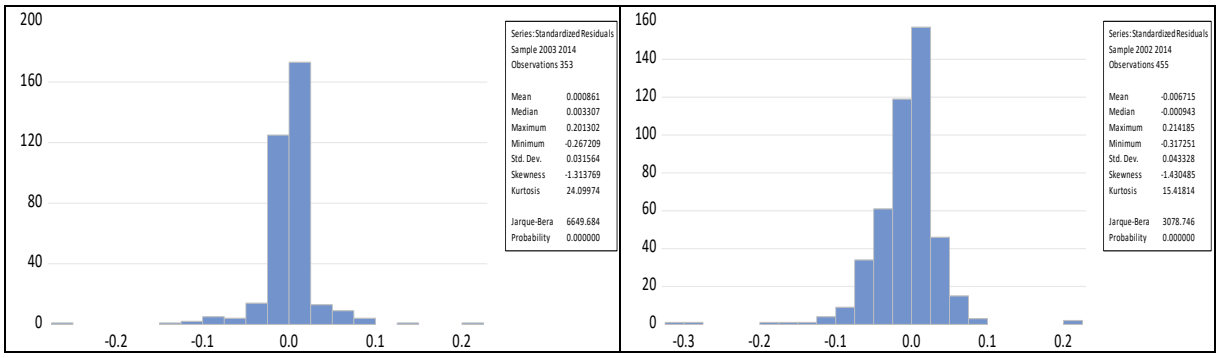
Coefficient Confidence Intervals
Sample: 2008 2014
Included observations: 94

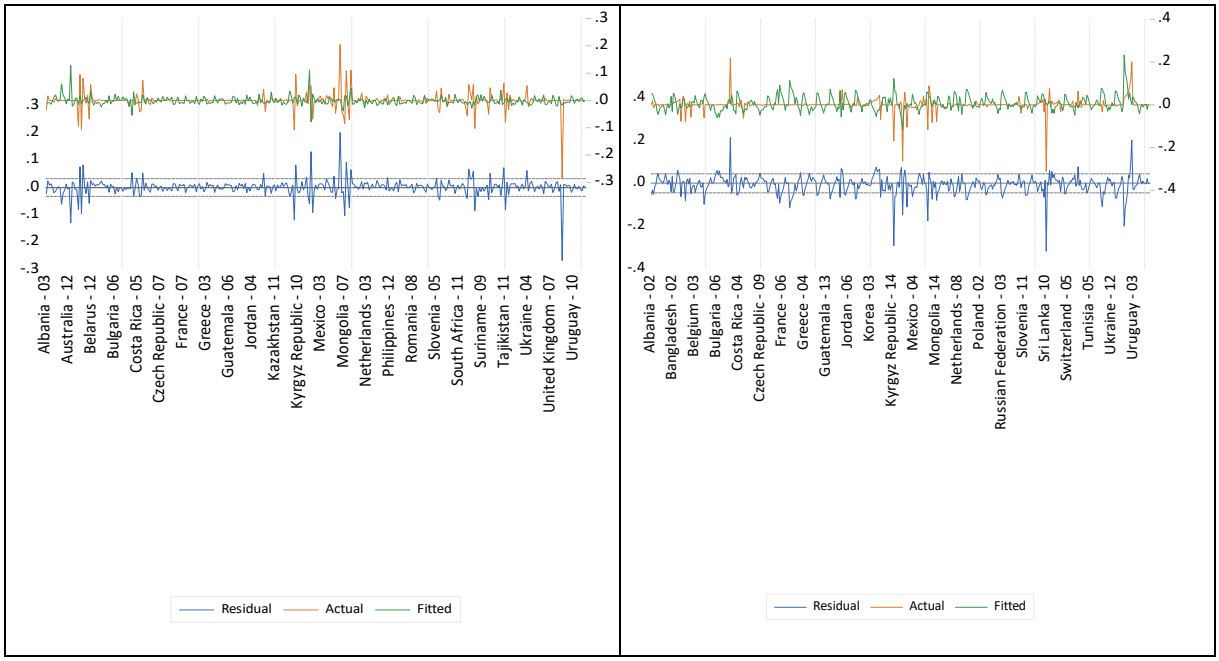
Variable	Coefficient	90% CI Low	90% CI High	95% CI Low	95% CI High	99% CI Low	99% CI High
ANNUAL GOLD M...	-0.051636	-0.070725	-0.032546	-0.074468	-0.028803	-0.081925	-0.021347
ANNUAL GOLD M...	-0.032025	-0.052278	-0.011772	-0.056250	-0.007800	-0.064161	0.000110
CAPITAL ACCOUN...	0.026878	0.010774	0.042983	0.007616	0.046140	0.001326	0.052431
CURRENT ACCO...	0.000133	-0.000250	0.000516	-0.000325	0.000591	-0.000474	0.000741
FOREIGN DIRECT ...	5.29E-05	-0.000590	0.000695	-0.000715	0.000821	-0.000966	0.001072
GDP GROWTH	0.000183	-0.000548	0.000915	-0.000691	0.001058	-0.000977	0.001344
GLOBAL LIQUIDIT...	0.004341	0.002088	0.006595	0.001646	0.007037	0.000765	0.007917
GOLD PRICE C...	3.44E-05	2.06E-05	4.82E-05	1.79E-05	5.09E-05	1.25E-05	5.63E-05
GOLD RESERVES...	-3.41E-13	-5.26E-13	-1.57E-13	-5.62E-13	-1.20E-13	-6.34E-13	-4.83E-14
HUMAN DEVELOP...	1.078030	0.456813	1.699247	0.334998	1.821062	0.092352	2.063708
INCOME GROUP	0.008783	0.001964	0.015601	0.000627	0.016938	-0.002036	0.019602
INFLATION	0.000414	0.000182	0.000645	0.000136	0.000691	4.59E-05	0.000781
INFLATION VOLATI...	-4.69E-05	-0.000289	0.000195	-0.000337	0.000243	-0.000431	0.000338
POPULATION	8.13E-10	-8.45E-10	2.47E-09	-1.17E-09	2.80E-09	-1.82E-09	3.44E-09
RULE OF LAW	-0.013076	-0.034155	0.008002	-0.038289	0.012136	-0.046522	0.020369
TRADE OPENNESS	0.000121	-3.64E-05	0.000279	-6.73E-05	0.000309	-0.000129	0.000371
US EXCHANGE L...	0.000166	0.000118	0.000215	0.000108	0.000224	8.96E-05	0.000243
VIX	-0.001448	-0.002784	-0.000111	-0.003046	0.000151	-0.003568	0.000673

Arellano-Bond Serial Correlation Test
Sample: 2008 2014
Included observations: 94

Test order	m-Statistic	rho	SE(rho)	Prob.
AR(1)	NA	-0.025078	NA	NA
AR(2)	NA	0.004333	NA	NA

6. Panel study: models – first difference (left) vs. orthogonal deviation (right)

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Greece - 03
Guatemala - 06
Jordan - 04
Kazakhstan - 11
Kyrgyz Republic - 10
Mexico - 03
Mongolia - 07
Netherlands - 03
Philippines - 12
Romania - 08
Slovenia - 05
South Africa - 11
Suriname - 09
Tajikistan - 11
Ukraine - 04
United Kingdom - 07
Uruguay - 10
Residual
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Bangladesh - 02
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Korea - 03
Kyrgyz Republic - 14
Mexico - 04
Mongolia - 14
Netherlands - 08
Poland - 02
Russian Federation - 03
Slovenia - 11
Sri Lanka - 10
Switzerland - 05
Tunisia - 05
Ukraine - 12
Uruguay - 03
Residual
Actual
Fitted